

AD A131 893

GRAND FORKS AFB NORTH DAKOTA REVISED UNIFORM SUMMARY OF

1/6

SURFACE WEATHER O... (U) AIR FORCE ENVIRONMENTAL

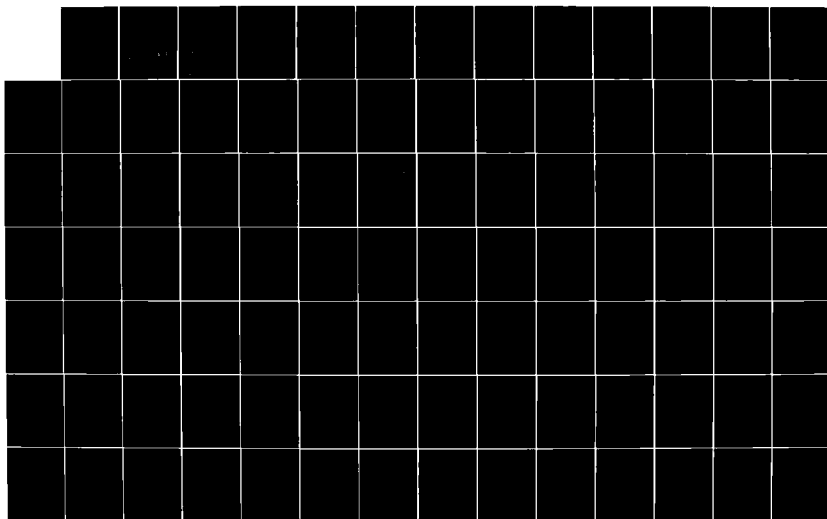
TECHNICAL APPLICATIONS CENTER SCOTT A... APR 83

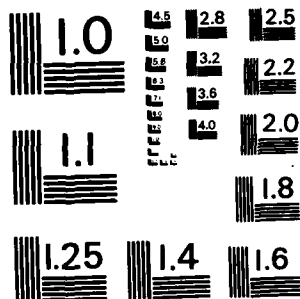
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USAFETAC/DS/R3/011 SBI-AD-E850 389

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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DS# 83011

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CTAC

**DATA PROCESSING DIVISION
USAFETAC
Air Weather Service (MAC)**

GRAND FORKS AFB ID
N 47 58 W 97 24

ELEV 411 FT

NSC #727575
ADR

PARTS A-F

HOURLY SUMMARIZED: 0000Z - 2300Z

PERIOD OF RECORD:

HOURLY OBSERVATIONS: JAN 75 - DEC 82

SUMMARY OF DAY DATA: JUN 59 - DEC 82

TIME CONVERSION GMT TO LST: -6

APR 28 1983

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This technical report has been reviewed and is approved for publication.

Wayne E. McCollom

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FOR THE COMMANDER

Walter S. Burgman

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Director, Air Weather Service
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USND 727575

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM															
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18. SUPPLEMENTARY NOTES																	
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)																	
<table border="0"> <tr> <td>*RUSSWO</td> <td>Daily temperatures</td> <td>Atmospheric pressure</td> </tr> <tr> <td>Snowfall</td> <td>Extreme snow depth</td> <td>Extreme surface winds</td> </tr> <tr> <td>Climatology</td> <td>Sea-level pressure</td> <td>Psychrometric summary</td> </tr> <tr> <td>Surface Winds</td> <td>Extreme temperature</td> <td>Ceiling versus visibility</td> </tr> <tr> <td>Relative Humidity</td> <td>*Climatological data</td> <td>(over)</td> </tr> </table>			*RUSSWO	Daily temperatures	Atmospheric pressure	Snowfall	Extreme snow depth	Extreme surface winds	Climatology	Sea-level pressure	Psychrometric summary	Surface Winds	Extreme temperature	Ceiling versus visibility	Relative Humidity	*Climatological data	(over)
*RUSSWO	Daily temperatures	Atmospheric pressure															
Snowfall	Extreme snow depth	Extreme surface winds															
Climatology	Sea-level pressure	Psychrometric summary															
Surface Winds	Extreme temperature	Ceiling versus visibility															
Relative Humidity	*Climatological data	(over)															
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)																	
<p>This report is a six-part statistical summary of surface weather observations for</p> <p>GRAND FORKS AFB, NORTH DAKOTA</p> <p>It contains the following parts: (A) Weather Conditions; Atmospheric Phenomena; (B) Precipitation, Snowfall and Snow Depth (Daily amounts and extreme values); (C) Surface winds; (D) Ceiling versus Visibility; Sky Cover; (E) Psychrometric (over)</p>																	

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 68 IS OBSOLETE

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SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

19. Percentage frequency of distribution tables
Dry-bulb temperature versus wet-bulb temperature
Cumulative percentage frequency of distribution tables

*NORTH DAKOTA

*GRAND FORKS AFB

*

20. Summaries (daily maximum and minimum temperatures, extreme maximum and minimum temperatures, psychrometric summary of wet-bulb temperature depression versus dry-bulb temperature, means and standard deviations of dry-bulb, wet-bulb and dew point temperatures and relative humidity); and (F) Pressure Summary (means, standard, deviations, and observation counts of station pressure and sea-level pressure). Data in this report are presented in tabular form, in most cases in percentage frequency of occurrence or cumulative percentage frequency of occurring tables.

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	



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USAFETAC-05-83/012

HDE 850 389

USNO 727 575

The number that identifies the station in this summary is an AWS Master Station Catalog number. This number is comprised of the WMO number with the addition of a suffix zero; or, in cases where there is no designated WMO number, a 5-digit number created in agreement with WMO rules, plus a sixth qualifying digit. These numbers (also referred to as DATSAV or USAFETAC numbers) uniquely identify each of more than 15,000 reporting stations around the world. This is the provenance of the number (e.g., MSC 999999) which will appear on future OL-A standard products.

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

REVISED UNIFORM SUMMARY OF SURFACE WEATHER OBSERVATIONS

HOURLY OBSERVATIONS

Hourly observations are defined as those record or record-special observations recorded at scheduled hourly intervals.

DAILY OBSERVATIONS

Daily observations are selected from all data recorded on reporting forms and combined into Summary of the Day observations. (Selected from record-special, local, summary of the day, remarks, etc.)

DESCRIPTION OF SUMMARIES

Preceding each section is a brief description of the data comprising each part of the Revised Uniform Summary of Surface Weather Observations and the manner of presentation. Tabulations are prepared from hourly and daily observations recorded by stations operated by the U. S. Service and some foreign stations using similar reporting practices.

Unless otherwise noted the following summaries are included for this station:

PART A WEATHER CONDITIONS

ATMOSPHERIC PHENOMENA

PART B PRECIPITATION

SNOWFALL

SNOW DEPTH

PART C SURFACE WINDS

PART D CEILING VERSUS VISIBILITY

SKYCOVER

PART E DAILY MAX, MIN, & MEAN TEMP

EXTREME MAX & MIN TEMP

PSYCHROMETRIC DRY VS WET BULB

MEAN & STD DEV (DRY BULB, WET BULB, & DEW POINT)

RELATIVE HUMIDITY

PART F STATION PRESSURE

SEA LEVEL PRESSURE

STANDARD 3-HOUR GROUPS

All summaries requiring diurnal variations are summarized in eight 3-hour periods corresponding to the following sets of hourly observations: 0000-0200, 0300-0500, 0600-0800, 0900-1100, 1200-1400, 1500-1700, 1800-2000, 2100-2300 hours local standard time.

MISSING HOUR GROUPS

Summary sheets are omitted when stations maintaining limited observing schedules did not report certain three-hour periods for any particular month during the available period of record. Such missing sheets are listed below, and are applicable to all summaries prepared from hourly observations.

JANUARY _____

APRIL _____

JULY _____

OCTOBER _____

FEBRUARY _____

MAY _____

AUGUST _____

NOVEMBER _____

MARCH _____

JUNE _____

SEPTEMBER _____

DECEMBER _____

STATION NO. ON SUMMARY	STATION NAME	LATITUDE	LONGITUDE	STATION ELEV. (FT)	CALL SIGN	WMO NUMBER
727575	GRAND FORKS AFB NORTH DAKOTA	N 47 58	W 097 24	911	RDR	

STATION LOCATION AND INSTRUMENTATION HISTORY

NUMBER OF LOCATION	GEOGRAPHICAL LOCATION & NAME	TYPE OF STATION	AT THIS LOCATION		LATITUDE	LONGITUDE	ELEVATION ABOVE WSL		OBS PER DAY
			FROM	TO			STATION (FT)	TYPE BAROMETER	
1	Grand Forks AFB ND	AFB	Sep 59	Mar 62	N 47 56	W 097 23	911	905	24
2	Same	Same	Apr 62	Dec 70	N 47 58	W 097 24	Same	Same	24
3	Same	Same	Jan 71	Feb 78	N 47 57	Same	Same	Same	24
4	Same	Same	Mar 78	Mar 83	N 47 58	Same	Same	Same	24

NUMBER OF LOCATION	DATE OF CHANGE	SURFACE WIND EQUIPMENT INFORMATION				REMARKS, ADDITIONAL EQUIPMENT, OR REASON FOR CHANGE
		LOCATION	TYPE OF TRANSMITTER	TYPE OF RECORDER	HT ABOVE GROUND	
1	Sep 59	Located on top of Control Tower	AN/GMQ 1	N/A	80 ft	
2	Apr 60	Located 1560 ft N and 950 ft E of end of rnwy 35.	AN/GMQ 1	RO-2A	15 ft	
3	Apr 61	Located 1560 ft N of S end of rnwy and 950 ft E of centerline.	Same	Same	Same	
4	Apr 66	1. Located 1560 ft N of S end of rnwy & 950 ft E of centerline rnwy 35. 2. Located 1000 ft S of N end of rnwy and 500 ft E of centerline rnwy 17.	Same	Same	Same	
5	May 69	1. No change. 2. No change.	Same Same	RO-362	Same Same	

NUMBER OF LOCATION	DATE OF CHANGE	SURFACE WIND EQUIPMENT INFORMATION				REMARKS, ADDITIONAL EQUIPMENT, OR REASON FOR CHANGE
		LOCATION	TYPE OF TRANSMITTER	TYPE OF RECORDER	HT. ABOVE GROUND	
6	Jan 71	1. Located 2800 ft N of the S end of Rnwy and 900 ft E of centerline of Rnwy 35. 2. Located 2200 ft S of the N end of rnwy and 400 ft E of the center- line of Rnwy 17.	GMQ-11	RO-362	15 ft	
7	Feb 78	1. Same 2. Same	Same	Same	Same	
8	Mar 83	1. Same 2. Same	Same	Same	Same	

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
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A

PART A

WEATHER CONDITIONS

This summary is a percentage frequency occurrence of various atmospheric phenomena and obstructions to vision, derived from hourly observations, and is presented in two tables as follows:

1. By month and annual, all hours and years combined.
2. By month, all years combined, by standard 3-hour groups.

A percent value of ".0" in these tables indicates less than .05 percent, which is usually only one occurrence. The various phenomena included in each category on the forms are listed below:

Thunderstorms - All reported occurrences of thunderstorm, tornado, and waterspout.

Rain and/or drizzle - All liquid precipitation, falling to the ground, not freezing.

Freezing rain and/or freezing drizzle (glaze) - Precipitation falling in liquid form, but freezing on contact with an unheated surface.

Snow and/or sleet (ice pellets) - Included are snow, snow pellets, sleet, snow grains, ice crystals, and ice pellets from Jan 68 and later. (Snow pellets also known as soft hail)

Hail - Occurrences of hail and small hail are included.

Percentage of observations with precipitation - Included in this category are the observations when one or more of the above phenomena occurred. Since more than one type of precipitation may be reported in the same observation, the sums of the individual categories may exceed the percentages of the observations with precip.

Fog - Included are fog, ice fog, and ground fog.

Smoke and/or haze - Occurrences of smoke, haze, or combinations of smoke and haze are included.

Blowing snow - Occurrences of blowing snow (also drifting snow when reported from non-WBAN sources).

Dust and/or sand - Included are blowing dust, blowing sand, and dust.

Continued on Reverse

Blowing spray - This item if reported, is not shown in a separate category on this form but is included in the computation Percentage of Observations with Obstructions to Vision, below.

Percentage of observations with obstructions to vision - Included in this category are the observations when one or more of the above obstructions to vision occurred. Since more than one type of obstruction may be reported in the same observation, the sums of the individual categories may exceed the percentage total columns. Also, although precipitation may reduce visibility, it is not considered an obstruction to vision for purposes of this summary; therefore, the percentage total of obstructions to vision need not reflect the total observations with reduced visibility.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

JAN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (LST)	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO OF OBS
JAN	00-02			.2	25.4		25.5	5.2	.1	9.0		14.2	927
	03-05			.3	25.8		26.1	4.7	.1	10.8	.3	15.6	930
	06-08			.3	24.4		24.7	4.7		9.9	.3	14.5	930
	09-11		.1	.8	16.8		17.4	7.0	.6	12.6	.3	19.6	930
	12-14			.3	17.3		17.3	6.8	1.7	14.7	1.4	22.8	930
	15-17			.1	18.1		18.2	6.2	1.7	11.3	1.4	19.1	930
	18-20			.3	20.2		20.3	5.6	.8	10.2	.4	16.2	930
	21-23			.4	22.3		22.3	5.3	.3	10.2	.2	15.6	929
TOTALS			.0	.3	21.3		21.5	5.7	.7	11.1	.5	17.2	7436

WEATHER CONDITIONS

FEB
MONTH

MONTH	HOURS LST	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS
FEB	00-02			.5	20.7		20.8	7.2	.1	7.1	.5	14.5	846
	03-05		.6	.2	22.5		23.2	6.5	.2	6.3		12.8	846
	06-08		.1	.8	21.7		22.5	6.9	.1	7.6		13.9	846
	09-11		.5	.6	19.9		20.3	8.5	1.7	8.9	.1	19.1	846
	12-14		.4	.2	16.5		16.9	7.4	1.9	10.3	.9	19.7	846
	15-17		.2	1.1	16.7		17.6	7.3	2.2	9.8	1.5	19.7	846
	18-20			1.7	15.2		16.3	7.0	1.8	6.5	1.4	15.6	846
	21-23			1.2	16.9		17.8	7.1	.8	6.0	.8	14.3	846
TOTALS			.2	.8	18.8		19.4	7.2	1.1	7.8	.7	16.2	6768

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

MAR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS EST	THUNDER- STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS
MAR	00-02	.1	2.7	.6	11.4		14.5	8.2		2.5		10.6	930
	03-05		2.3	1.2	13.1		15.3	10.0		3.3		13.2	930
	06-08		2.7	1.6	13.3		16.5	15.4	.1	4.1		19.2	930
	09-11		2.6	.9	12.6		15.8	15.5	1.4	6.9	.6	23.1	930
	12-14		2.2	.8	11.5		13.8	11.5	1.7	5.7	.1	18.0	930
	15-17	.1	2.3	.6	12.2		14.2	9.7	2.2	5.1		16.0	930
	18-20		2.7	.9	11.5		14.7	9.1	1.0	4.2	.2	14.2	930
	21-23		2.9	.5	11.2		14.2	8.9	.5	2.8	.1	12.3	930
TOTALS		.0	2.6	.9	12.1		14.9	11.0	.9	4.3	.1	15.8	7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

APR
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS LST.	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS
APR	00-02	.8	8.3	.4	4.6	.2	12.3	5.8		.3	.9	7.3	900
	03-05	.3	7.6	.2	5.0		11.8	8.6	.1	.6	.4	9.7	900
	06-08	.8	6.3		5.0		10.2	12.3	.1	1.1	1.1	14.6	899
	09-11	.8	6.4		4.3		10.0	8.9	.8	1.0	2.0	12.4	900
	12-14	.3	7.6	.1	3.3	.1	10.6	6.1	.6	.8	1.6	8.9	900
	15-17	.7	8.5	.1	2.8		10.6	5.8	1.0	.9	1.8	9.5	899
	18-20	.1	8.2		3.0		10.7	5.4	.9	.7	1.6	8.6	900
	21-23	.3	9.1		2.6		11.3	4.0	.3	.3	.6	5.2	900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORMS AFB ND
STATION NAME

73-82
YEARS

MAY
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (LST)	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO OF OBS
MAY	00-02	1.0	9.2		.6		9.9	3.5	.9		.3	4.5	930
	03-05	.4	8.2		.8		8.9	5.5	.8		.1	6.2	930
	06-08	.4	10.8		.4		11.2	7.2	1.2			8.4	930
	09-11	.5	10.1		.3		10.4	4.1	1.6		.1	5.8	930
	12-14	.2	6.0		.3		6.1	2.0	1.1		.3	3.4	930
	15-17	1.1	7.0		.3		7.0	2.3	.9		.4	3.5	930
	18-20	2.0	8.3		.4		8.4	2.8	1.6		.4	4.6	930
	21-23	2.5	9.2		.9		9.8	2.0	.9		.1	3.0	930
TOTALS		1.0	8.6		.5		9.0	3.7	1.1		.2	4.9	7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

JUN
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO OF OBS
JUN	00-02	2.8	7.2				7.2	.9	.2			1.1	900
	03-05	2.7	7.1				7.1	3.7	.3			4.0	900
	06-08	1.6	7.9				7.9	5.0	1.0			6.0	900
	09-11	.4	8.6				8.6	2.9	.8		.2	3.9	900
	12-14	1.2	6.2				6.2	2.0	.4		.1	2.6	899
	15-17	2.0	5.9			.1	5.9	1.1	.8		.2	2.1	900
	18-20	2.4	5.7			.2	5.8	1.2	.3		.2	1.8	900
	21-23	2.8	5.6				5.6	1.0			.1	1.1	900
TOTALS		2.0	6.8			.0	6.8	2.2	.5		.1	2.8	7199

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

JUL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
JUL	00-02	4.2	4.4			.1	4.4	2.5	.5			3.0	930
	03-05	3.4	5.7				5.7	5.2	.3			5.5	930
	06-08	1.5	4.7				4.7	6.8	.6			7.4	930
	09-11	1.1	3.0				3.0	1.6	1.0			2.6	930
	12-14	1.3	4.2				4.2	.9	.8			1.6	930
	15-17	1.4	3.0				3.0		.9			.9	930
	18-20	3.4	4.7				4.7	.2	1.0			1.2	930
	21-23	5.2	4.5				4.5	.8	.3			1.1	930
TOTALS		2.7	4.3			.0	4.3	2.3	.7			2.9	7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORMS AFB ND
STATION NAME

73-82
YEARS

AUG
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (L.S.T.)	THUNDER- STORMS	RAIN AND/OR DRIZZLE	FREEZING RAIN & /OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND/OR HAZE	BLOWING SNOW	DUST AND/OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO OF OBS.
AUG	00-02	3.0	6.3				6.3	3.2	.5			3.8	930
	03-05	1.9	7.5				7.5	6.7	.4			7.0	930
	06-08	1.9	6.5				6.5	13.4	.9			14.3	930
	09-11	.6	5.8				5.8	6.0	2.5			8.5	930
	12-14	1.3	5.7		.1		5.8	1.3	2.2			3.4	930
	15-17	1.5	7.1				7.1	.8	1.5		.3	2.6	930
	18-20	2.9	4.5				4.5	1.5	1.7		.3	3.5	930
	21-23	1.8	4.9				4.9	2.0	.8			2.8	930
TOTALS		1.9	6.0		.0		6.1	4.4	1.3		.1	5.7	7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

SEP
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (LST)	THUNDER- STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS.
SEP	00-02	1.0	5.1				5.1	4.2				4.2	900
	03-05	.7	6.4				6.4	5.0				5.0	900
	06-08	.7	7.0				7.0	8.2	1.2			9.4	900
	09-11	.3	9.3				9.3	6.2	1.9			8.1	900
	12-14	.9	7.8				7.8	5.2	.9		.1	6.2	900
	15-17	.6	7.8				7.8	4.0	1.7		.4	6.1	900
	18-20	.2	6.3				6.3	3.9	.6		.1	4.6	900
	21-23	.3	5.8				5.8	4.0	.1			4.1	900
TOTALS		.6	6.9				6.9	5.1	.8		.1	6.0	7200

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

OCT
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS LST	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS
OCT	00-02	.3	7.8		1.8		9.4	5.7				5.7	930
	03-05		6.9		2.7		9.6	5.5				5.5	929
	06-08		8.4		2.0		10.3	8.5	.3	.3	.2	9.4	930
	09-11		7.4		1.9		9.1	8.8	1.3	.3	.3	10.3	930
	12-14		8.8		2.3		10.2	5.2	1.1	.3	.4	7.0	930
	15-17	.4	7.1		2.6		8.8	5.7	.6	.3	.6	7.3	930
	18-20	.2	8.8		2.2		10.5	5.4	.4	.2	.3	6.3	930
	21-23	.2	6.3		1.8		10.1	4.9			.1	5.1	930
TOTALS		.1	8.0		2.2		9.8	6.2	.5	.2	.2	7.1	7439

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORMS AFB ND
STATION NAME

73-82
YEARS

NOV
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS (LST)	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO OF OBS
NOV	00-02		2.1	.8	14.2		16.2	7.6		2.2		9.8	900
	03-05		2.7	.7	16.9		19.6	8.3		2.3		10.7	900
	06-08		2.1	1.1	14.8		17.6	9.6		3.3	.2	13.1	900
	09-11		2.4	.6	13.2		15.9	12.3	.4	3.0	.3	15.7	899
	12-14		1.9		13.7		15.0	9.0	.4	3.4	.3	12.7	903
	15-17		1.6		14.2		15.6	7.8	1.1	2.9	.6	12.0	900
	18-20		1.0	.8	11.7		13.1	6.2	.2	2.2		8.7	900
	21-23		1.1	.2	14.7		16.0	6.4		2.6	.1	9.0	900
TOTALS			1.9	.5	14.2		16.1	8.4	.3	2.7	.2	11.5	7199

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

DEC
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS LST	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS
DEC	00-02	.1	.9	1.6	19.7		21.9	10.8	.1	4.3	.2	15.4	930
	03-05		.5	2.0	20.9		23.3	10.2		4.5	.2	14.8	930
	06-08	.1	.5	2.4	22.3		24.8	9.4		6.3	.1	15.8	930
	09-11		.5	1.5	20.0		21.9	12.6	.2	6.6	.3	19.7	930
	12-14		.5	.6	20.8		21.9	13.5	.8	5.1	.6	20.0	930
	15-17		.8	.8	17.5		18.8	11.8	1.5	4.4	.9	18.4	930
	18-20		.8	1.0	18.6		20.0	11.3	.5	5.3	.9	17.6	927
	21-23		.4	1.5	20.6		22.1	9.6	.3	5.4	.1	15.4	927
TOTALS		.0	.6	1.4	20.1		21.8	11.2	.4	5.2	.4	17.1	7434

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

WEATHER CONDITIONS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82

YEARS

ALL
MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE OF WEATHER CONDITIONS FROM HOURLY OBSERVATIONS

MONTH	HOURS LST	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND/OR SLEET	HAIL	% OF OBS WITH PRECIP	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO OF OBS
JAN	ALL		.0	.3	21.3		21.5	5.7	.7	11.1	.5	17.2	7436
FEB			.2	.8	18.8		19.4	7.2	1.1	7.8	.7	16.2	6768
MAR		.0	2.6	.9	12.1		14.9	11.0	.9	4.3	.1	15.8	7440
APR		.5	7.8	.1	3.8	.0	10.9	7.1	.5	.7	1.3	9.5	7198
MAY		1.0	8.6		.5		9.0	3.7	1.1		.2	4.9	7447
JUN		2.0	6.8			.0	6.8	2.2	.5		.1	2.8	7199
JUL		2.7	4.3			.0	4.3	2.3	.7			2.9	7440
AUG		1.9	6.0		.0		6.1	4.4	1.3		.1	5.7	7440
SEP		.6	6.9				6.9	5.1	.8		.1	6.0	7200
OCT		.1	8.0		2.2		9.8	6.2	.5	.2	.2	7.1	7439
NOV			1.9	.5	14.2		16.1	8.4	.3	2.7	.2	11.5	7199
DEC		.0	.6	1.4	20.1		21.8	11.2	.4	5.2	.4	17.1	7434
TOTALS		.7	4.5	.3	7.8	.0	12.3	6.2	.7	2.7	.3	9.7	87633

PART A

ATMOSPHERIC PHENOMENA

This summary is a presentation of the percentage of days with occurrence of various atmospheric phenomena. These data are obtained from all recorded information on the reporting forms or from hourly data and combined into a daily observation.

The descriptions of the phenomena in the Weather Conditions Summary above also apply for the categories summarized in these daily tabulations. However, it should be noted that in this summary the columns headed "% OF OBS WITH PRECIP" and "% OF OBS WITH OBST TO VISION" show the percentage of days rather than the percentage of observations. Since more than one type of precipitation or more than one type of obstruction may occur in the same daily observation, the sum of the values in the individual categories may differ from the total columns.

A percent value of ".0" in the table indicates less than .05 percent, which is usually only one occurrence.

This presentation is by month with annual totals, and is prepared with all years combined.

- NOTES: (1) A day with rain and/or drizzle was not separately reported in the WBAN data prior to year 1949. Therefore, percentages in this column are restricted to the period Jan 1949 and later.
- (2) A day with freezing rain and/or freezing drizzle is also properly reported as a day with rain and/or drizzle.
- (3) A day with dust and/or sand is included in this summary only when visibility is reduced to less than $5/8$ mile.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIF WEATHER SERVICE/MAC

XX WEATHER CONDITIONS XX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
ATMOSPHERIC PHENOMENA

727575
STATION

GRAND FORKS AFB ND
STATION NAME

59-82

YEARS

ALL
MONTH

PERCENTAGE OF DAYS WITH VARIOUS ATMOSPHERIC PHENOMENA
FROM DAILY OBSERVATIONS

MONTH	HOURS LIST	THUNDER STORMS	RAIN AND OR DRIZZLE	FREEZING RAIN & OR DRIZZLE	SNOW AND OR SLEET	HAIL	% OF OBS WITH PRECIP.	FOG	SMOKE AND OR HAZE	BLOWING SNOW	DUST AND OR SAND	% OF OBS WITH OBST TO VISION	TOTAL NO. OF OBS
JAN	DAILY		5.1	4.2	64.9		66.2	21.3	4.4	35.3	.8	5.4	712
FEB			7.7	5.8	59.5	.2	61.6	23.1	7.2	26.4	.6	45.6	640
MAR		1.0	17.3	5.5	47.3		54.8	29.0	6.7	15.3	.7	41.6	713
APR		4.6	34.1	1.7	21.6	1.2	46.1	25.4	4.1	3.8	.1	29.7	690
MAY		12.9	44.9		3.8	1.1	46.6	21.6	2.8	.3		23.0	713
JUN		22.9	50.0			1.7	50.0	17.2	2.6			16.8	690
JUL		31.7	45.2			1.4	45.2	13.5	3.2			14.9	713
AUG		22.3	42.9			1.3	42.9	20.3	5.9			23.1	713
SEP		10.2	40.1		1.0	.3	40.5	19.5	4.5			21.4	706
OCT		2.7	33.5	1.1	10.2	.1	38.0	20.7	4.0	1.1		22.3	744
NOV			17.5	5.3	41.1		49.7	24.2	4.3	8.8	.3	32.2	723
DEC		.1	12.1	9.5	61.2		64.2	28.6	3.8	20.4		45.4	744
TOTALS		9.0	29.2	2.8	25.9	.6	50.5	22.0	4.5	9.3	.2	30.6	8498

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART B PRECIPITATION, SNOWFALL & SNOW DEPTH

This part of the Uniform Summary consists of eight summaries derived from daily observations as follows:

1. The first set presents, in three tables, the percentage frequency of various daily amounts of PRECIPITATION, SNOWFALL, and SNOW DEPTH. The daily amount summary is prepared by month and annual, all years combined, and includes percent of days with measurable amounts; percent of days having none, traces, and given amounts; and means, greatest and least monthly amounts. (The last three statistics are omitted from the snow depth summary because of their doubtful and limited value.) A total count of valid observations is given for months and annual. Stations are included in which a portion or all of the period may contain months with missing days. This will be noted on the summary pages. A percent value of ".0" in these daily amount tables indicates less than .05 percent which is usually only one occurrence.
2. The second set of three tables presents the extreme daily amounts, by individual year and month, of PRECIPITATION, SNOWFALL, and SNOW DEPTH for the entire period of record available. Also provided are the means and standard deviations for each month and annual (all months) and the total valid observation count. An asterisk (*) is printed in any year-month block when the extreme value is based on an incomplete month (at least one day missing for the month). When a month has valid observations reported but no occurrences, zeros are given in the tables as follows:

EXTREME DAILY PRECIPITATION	".00"	equals none for the month (hundredths)
EXTREME DAILY SNOWFALL	".0"	equals none for the month (tenths)
EXTREME DAILY SNOW DEPTH	"0"	equals none for the month (whole inches)

3. The third set of two tables provides the total monthly amounts of PRECIPITATION and SNOWFALL for each year-month and annual. Also prepared are the means, standard deviations, and total number of valid observations for each month and annual (all months). An asterisk (*) is printed in each data block if one or more days are missing for the month. No occurrences for a month are indicated in the same manner as in the extreme tables above. If a trace becomes the extreme or monthly total in any of these tables it is printed as "TRACE."

Continued on Reverse Side

Values for means and standard deviations do not include measurements from incomplete months.

- NOTES: (1) The above studies may also be prepared for stations operating for less than full months for portions or all of the period of record. This may include stations operating 5 or 6 days a week and those with only random days missing. An asterisk (*) in the data blocks will give an indication that a month is incomplete. Please refer to Station History at front of book and observation counts in each summary to evaluate the amounts of data missing.
- (2) Hail was included in snowfall occurrences in the summary of day observations prior to Jan 56, but these occurrences have been removed from snowfall category and counted as Hail in these summaries.
- (3) Snow Depth was recorded and punched at various hours during the period available from U. S. operated stations. The hours used by each service for each period are as follows:

Air Force Stations:

Beginning thru 1945	at 0800LST
Jan 46-May 57	at 1230GMT
Jun 57-present	at 1200GMT

U. S. Navy and National Weather Service (USWB)

Beginning thru Jun 52	at 0030GMT
Jul 52-May 57	at 1230GMT
Jun 57-present	at 1200GMT

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

DAILY AMOUNTS

PERCENTAGE FREQUENCY OF
PRECIPITATION
(FROM DAILY OBSERVATIONS)

727575 GRAND FORKS AFB ND
STATION STATION NAME

59-82
YEARS

AMOUNTS (INCHES)															PERCENT OF DAYS WITH MEASUR- ABLE AMTS	TOTAL NO OF OBS	MONTHLY AMOUNTS (INCHES)		
PRECIP	NONE	TRACE	01	02-05	06-10	11-25	26-50	51-100	101-250	251-500	501-1000	1001-2000	OVER 2000	MEAN			GREATEST	LEAST	
SNOWFALL	NONE	TRACE	01.0-4	0.5-1.4	1.5-2.4	2.5-3.4	3.5-4.4	4.5-6.4	6.5-10.4	10.5-15.4	15.5-25.4	25.5-50.4	OVER 50.4						
SNOW DEPTH	NONE	TRACE	1	2	3	4-6	7-12	13-24	25-36	37-48	49-60	61-120	OVER 120						
JAN	33.5	39.7	5.6	9.0	6.2	4.2	1.4	.3						26.6	710	.67	2.43	.10	
FEB	37.8	38.2	4.6	8.0	5.2	3.7	.9	.6						24.0	650	.57	3.21	.17	
MAR	45.1	31.1	3.7	8.4	2.6	5.9	1.7	1.0	.3					23.8	711	.97	2.92	.13	
APR	53.8	20.6	2.2	7.7	3.6	5.1	3.6	2.8	.7					25.7	690	1.64	4.02	TRACE	
MAY	52.8	15.6	3.7	6.5	4.5	8.0	4.5	3.2	1.0	.1				31.6	712	2.38	7.83	.47	
JUN	48.8	16.3	2.6	7.3	6.5	6.0	6.5	3.8	2.3					35.0	689	3.08	8.10	1.08	
JUL	53.8	13.9	2.0	8.1	4.1	7.2	5.9	3.4	1.7					32.3	712	2.78	6.06	.74	
AUG	55.4	14.3	3.6	5.8	2.9	7.7	5.0	2.7	1.4	.1				29.3	713	2.31	4.67	.35	
SEP	59.3	14.9	4.1	5.2	3.5	4.2	3.5	2.7	2.4	.1				25.9	707	2.54	6.21	.27	
OCT	61.4	17.1	1.5	6.7	3.2	4.3	2.8	2.3	.7					21.5	744	1.44	5.71	.16	
NOV	49.3	31.0	4.3	6.7	3.8	2.8	1.4	.7	.1					19.7	720	.66	3.33	.02	
DEC	35.7	40.2	4.6	8.3	5.4	4.4	.9	.4						24.1	743	.63	1.35	.11	
ANNUAL	49.0	24.4	3.5	7.3	4.4	5.3	3.2	2.0	.9	.0				26.6	8501	19.67			

USAFETAC FORM 0-15.5 (OL A)
OCT 75

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

EXTREME VALUES PRECIPITATION

FROM DAILY OBSERVATIONS

727575 GRAND FORKS AFB ND
STATION STATION NAME

59-82

YEARS

24 HOUR AMOUNTS IN INCHES

MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ALL MONTHS
59									*	.20	.64	.36	.18
60	.39	.18	.17	.41	.71	1.06	.50	1.01	.39	.60	.38	.71	1.06
61	.17	.14	.14	.41	.36	.58	.51	.25	1.38	.71	.48	.14	1.38
62	.16	.41	.25	.13	3.06	.56	.33	.47	2.11	.26	.64	.22	3.06
63	.06	.20	.14	.47	.28	.53	1.38	.35	.11	.23	.09	.71	1.38
64	.23	.10	.28	1.00	.44	2.25	.76	1.31	2.06	.11	.36	.56	2.25
65	.11	.06	.25	.77	1.25	1.31	1.12	.78	1.50	.32	.37	.11	1.50
66	.29	.18	1.16	.44	.58	1.14	1.46	1.17	.23	.58	.21	.29	1.46
67	.85	.13	.20	1.13	.39	.84	.66	.24	1.13	.56	.05	.23	1.13
68	.13	.02*	.18	1.18	.58	1.64	1.32	1.15	.64	.33	.10	.15	1.64
69	* .23	.30	.07	.47	.76	2.02	.28	.64	1.77	.76	.07*	.14	2.02
70	.15	.05	.31	1.22	1.20	.86	1.36	1.28	2.14	.64	.94	.25	2.14
71	.56	.09	.44	.73	.88	.82	2.34	2.91	.58	1.14	.20	.06	2.91
72	.07	.09	.20	1.06	.57	.67	.36	.63	1.11	.20	.04	.25	1.11
73	.04	.06	.76	.17*	1.47*	.71	.30	.47	1.57	.84	.24	.09	1.57
74	.12	.17	.16	1.09	.72	.53	.50	1.45	.49	.32	.52	.26	1.45
75	* .06	.22	.73	.78	.82	1.30*	.43	.54	.85	.52	.19	.25	1.30
76	.46	.55	.75	.59	.18	.71	1.73	.39	.31	.09	.01	.14	1.73
77	.15	.53	.60	.35	1.43	.46	.63	.47	1.85	1.14	1.12	.22	1.43
78	.07	.10	.20	.30	.76	.44	.60	1.20	1.45	.13	.23	.43	1.45
79	.40	.73	.62	.98	.82	1.62	2.32	.54	.59	.60	.13	.11	2.32
80	.18	.14	.47	TRACE	.35	.67	.59	1.01	.80	.58	.36	.07	1.01
81	.14	.37	.22	.55	1.31	1.50	.94	.95	2.80	1.65	.23	.04	2.80
82	.40	.15	.65	.13	.54	1.08	1.03	.69	.86	1.85	.35	.38	1.85
MEAN	.239	.216	.395	.621	.818	1.029	.955	.865	1.127	.617	.307	.254	1.759
S D	.209	.184	.285	.374	.606	.521	.613	.577	.711	.453	.277	.189	.642
TOTAL OBS	713	650	711	693	712	689	712	713	707	744	720	743	8501

NOTE * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 0-88-3 (OLA)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

EXTREME VALUES
MONTHLY PRECIPITATION

727575 GRAND FORKS AFB ND
STATION STATION NAME

59-82

FROM DAILY OBSERVATIONS

YEARS

TOTAL MONTHLY PRECIPITATION IN INCHES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ALL MONTHS
59									* .44	2.15	1.44	.73	
60	.52	.36	.13	1.24	2.46	3.32	.74	3.23	.85	1.30	.30	1.35	15.62
61	.35	.49	.31	1.23	.72	1.46	2.12	.45	4.41	1.74	.59	.4	14.19
62	.77	.86	1.05	.44	7.83	1.79	1.64	1.12	3.31	.28	.86	.42	20.37
63	.10	.37	.34	1.35	1.05	1.48	4.13	.51	.27	.24	.20	1.24	11.28
64	.32	.22	.78	3.44	.81	8.10	2.89	2.65	3.45	.23	.45	1.32	24.66
65	.23	.11	.80	2.26	5.05	3.47	3.61	2.23	6.21	1.10	1.41	.37	26.65
66	.79	.30	2.92	1.31	1.03	3.55	6.06	3.34	.48	1.22	.42	.76	22.15
67	2.43	.28	.56	4.02	.47	2.83	1.07	.35	1.99	1.69	.17	.72	16.59
68	.49	.15*	.57	2.71	2.12	5.54	4.11	3.67	2.01	.67	.25	.70	*23.01
69	* 1.38	.85	.15	.56	2.11	4.72	1.71	1.21	5.00	1.16	.12*	.60	*19.37
70	.47	.18	1.05	2.82	4.32	2.90	4.20	2.03	3.19	1.44	1.20	.98	24.77
71	.81	.10	1.56	.97	2.15	3.81	5.71	4.67	2.24	3.58	.27	.19	25.55
72	.18	.31	.70	2.07	1.08	1.23	1.30	1.98	2.41	.35	.38	.56	12.25
73	.10	.07	1.04	.37*	3.22*	2.10	.74	1.43	3.98	1.95	.66	.43	*16.79
74	.39	.45	.53	2.87	3.96	1.30	2.21	4.31	.83	1.10	.57	.47	16.99
75	* .26	.62	2.10	2.75	1.27	4.86*	1.62	1.81	1.00	1.58	.41	.44	*18.72
76	1.28	1.00	1.63	1.19	.60	3.09	2.37	1.69	.53	.16	.32	.57	14.13
77	.62	.94	1.93	.73	4.36	1.37	3.15	2.83	3.30	1.51	3.33	1.26	25.37
78	.22	.37	.25	.82	2.49	1.08	1.80	4.06	2.78	.34	.84	.99	16.04
79	1.56	3.21	2.05	3.71	2.03	3.38	4.60	1.77	.85	.84	.21	.11	23.32
80	.81	.80	.65	TRACE	.77	1.30	1.95	4.30	2.37	1.15	.96	.19	15.25
81	.13	.61	.36	.65	2.33	4.19	1.77	3.21	5.35	3.07	.47	.13	22.07
82	1.45	.42	1.01	.38	3.30	3.37	3.27	1.76	1.65	5.71	.66	.51	23.59
MEAN	.667	.588	.971	1.639	2.377	3.085	2.780	2.310	2.541	1.440	.662	.628	19.614
S D	.588	.641	.733	1.195	1.818	1.731	1.525	1.316	1.671	1.253	.695	.392	5.018
TOTAL OBS	713	650	711	690	712	689	712	713	707	744	720	743	8501

NOTE * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 0-88-3 (OLA)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

DAILY AMOUNTS

PERCENTAGE FREQUENCY OF
SNOWFALL
(FROM DAILY OBSERVATIONS)

727575 GRAND FORKS AFB ND

59-67

STATION

STATION NAME

YEARS

PRECIP	AMOUNTS (INCHES)														PERCENT OF DAYS WITH MEASUR- ABLE AMTS	TOTAL NO OF OBS	MONTHLY AMOUNTS (INCHES)		
	NONE	TRACE	01	02-05	06-10	11-25	26-50	51-100	101-250	251-500	501-1000	1001-2000	OVER 2000	MEAN			GREATEST	LEAST	
SNOWFALL	NONE	TRACE	01-04	05-14	15-24	25-34	35-44	45-64	65-104	105-154	155-254	255-504	OVER 504						
SNOW DEPTH	NONE	TRACE	1	2	3	4-6	7-12	13-24	25-36	37-48	49-60	61-120	OVER 120						
JAN	34.8	38.3	11.8	9.9	2.7	1.1	.6	.8						26.9	710	7.8	21.1 1.1		
FEB	39.5	35.5	11.8	8.6	2.8	.8	.2	.6	.2					24.9	650	6.3	32.9 1.3		
MAR	52.7	27.1	9.8	4.8	2.8	.7	1.1	.6	.3	.1				20.2	712	7.9	26.4 TRACE		
APR	78.4	12.0	3.2	3.2	1.3	1.2	.1	.3	.3					9.6	690	4.0	14.5 TRACE		
MAY	96.3	2.7	.3	.4		.3								1.0	712	.4	4.4 .0		
JUN	100.0														711	.0	.0 .0		
JUL	100.0														734	.0	.0 .0		
AUG	100.0														738	.0	.0 .0		
SEP	99.0	.8			.1									.1	720	.1	1.5 .0		
OCT	89.8	7.5	.5	1.1	.7	.1	.1	.1						2.7	744	1.2	7.0 .0		
NOV	58.5	25.4	6.9	4.7	1.9	1.4	.4	.6	.1					16.1	720	5.7	22.8 .1		
DEC	38.8	39.0	10.2	7.4	2.8	.8	.4	.3	.3					22.2	743	6.5	15.4 .2		
ANNUAL	74.0	15.7	4.5	3.3	1.3	.5	.2	.3	.1	.0				10.3	8584	39.9			

2

FROM DAILY OBSERVATIONS

YEARS

8

1

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C

2

FROM DAILY OBSERVATIONS

YEARS

1

C.

6.

USAF ETAC FORM 0-88-9 (OLA)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

DAILY AMOUNTS

PERCENTAGE FREQUENCY OF
SNOW DEPTH
(FROM DAILY OBSERVATIONS)

727575 GRAND FORKS AFB ND

59-82

STATION

STATION NAME

YEARS

AMOUNTS (INCHES)														PERCENT OF DAYS WITH MEASUR- ABLE AMTS	TOTAL NO OF OBS	MONTHLY AMOUNTS (INCHES)		
PRECIP	NONE	TRACE	01	02-05	06-10	11-25	26-50	51-100	101-250	251-500	501-1000	1001-2000	OVER 2000			MEAN	GREATEST	LEAST
SNOWFALL	NONE	TRACE	01-04	05-14	15-24	25-34	35-44	45-64	65-104	105-154	155-254	255-504	OVER 504					
SNOW DEPTH	NONE	TRACE	1	2	3	4-6	7-12	13-24	25-36	37-48	49-60	61-120	OVER 120					
JAN	2.1	4.2	13.0	2.7	8.6	20.0	37.3	14.8	.4					93.7	711			
FEB	3.9	3.4	14.2	10.2	5.8	13.8	28.2	18.0	2.6					92.6	650			
MAR	18.5	12.9	11.9	6.7	6.0	18.1	17.8	6.2	1.9					66.6	713			
APR	69.9	12.6	5.2	2.2	2.2	5.7	1.6	.6						17.4	690			
MAY	98.7	.6	.4	.1	.1									.7	713			
JUN	100.0														712			
JUL	100.0														735			
AUG	100.0														738			
SEP	99.9		.1											.1	720			
OCT	95.8	2.0	.9	.7	.4	.1								2.2	743			
NOV	53.2	16.3	8.5	9.7	3.8	5.6	1.7	1.4						30.6	720			
DEC	10.9	13.7	15.7	16.0	9.4	16.8	13.3	4.2						75.4	744			
ANNUAL	62.7	5.5	5.6	4.0	3.0	6.7	8.3	3.8	.4					31.8	8589			

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

EXTREME VALUES

SNO- DEPTH

FROM DAILY OBSERVATIONS

727575 GRAND FORKS AFB ND
STATION STATION NAME

59-82

YEARS

DAILY SNOW DEPTH IN INCHES

MONTH YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ALL MONTHS
59						*	0*	0*	0	0	3	7	2
60		3	4	2	5	0	0	0	0	0	TRACE	4	8
61		5	5	1	TRACE	TRACE	0	0	0	0	0	3	6
62		9	9	13	7	0	0	0	0	0	TRACE	5	4
63		3	2	2	1	TRACE	0	0	0	0	0	2	9
64		3	2	7	5	0	0	0	0	0	0	4	16
65		18	17	9	7	0	0	0	0	0	0	8	7
66		9	9	30	6	1	0	0	0	0	0	3	7
67		22	21	10	4	3	0	0	0	0	1	0	5
68		8	5	2	1	0	0	0	0	0	2	2	6
69	*	17	20	20	7	0	0	0	0	0*	1	0	8
70		12	13	9	8	0	0	0	0	0	1	4	9
71		13	12	5	1	0	0	0	0	0	5	5	3
72		4	4	9	6	0	0	0	0	1	3	2	9
73		9	1	1	1	0	0	0	0	0	0	8	9
74		14	18	14	6	TRACE	0	0	0	0	TRACE	4	6
75	*	6	11	19	17	0	0	0	0	0	0	5	3
76		9	9	13	3	0	0	0	0	0	TRACE	TRACE	4
77		8	8	7	1	0	0	0	0	0	0	19	18
78		13	12	13	3	0	0	0	0	0	0	6	11
79		26	36	33	6	1	0	0	0	0	0	2	1
80		9	9	11	0	0	0	0	0	0	TRACE	3	2
81		4	2	2	0	0	0	0	0	0	2	2	3
82		18	16	9	1	0	0	0	0	0	1	2	2

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART C

SURFACE WINDS

Presented in this part are various tabulations of surface winds as follows:

- *1. Extreme Values - Peak Gusts: Derived from daily observations and presented by individual year and month for the entire period of record available. Speeds are presented in knots, while directions are given in 16 compass points from the beginning of record through June 1968, and in tens of degrees starting in July 1968. The extreme is selected and printed from available peak gusts for each year-month, however an asterisk (*) is printed in the data block if less than 90% (3 or more missing observations) of the peak gusts are available for the month. An ALL MONTHS value is presented when every month of the year has valid observations. Means and standard deviations are also computed when four or more values are present for any column. A total raw count of valid observations is presented for each month and ALL MONTHS.

NOTE: According to Federal Meteorological Handbook No. 1 specifications (formerly Circular N), "peak gust data are recorded only at stations with continuous instantaneous wind-speed recorders."

- *2. Bivariate percentage frequency tabulations: Derived from hourly observations, these tabulations are a percentage frequency of wind directions to 16 compass points and calm by wind speeds (knots) in increments of Beaufort classifications. Percentages are shown by both directions and speed, and in addition the mean wind speed is given for each direction.

A separate category is provided on the form for variable winds, which are reported in some data sources. In these data where light and variable winds are reported with no directions but with speeds given, the speeds will be summarized in the appropriate groups opposite the column headed VRBL.

- a. Three tables are prepared for ALL WEATHER surface winds, all years combined, by: (1) Annual - all hours combined, (2) By month - all hours combined, and (3) By month - by standard 3-hour groups.
- b. A separate annual table is also presented for surface winds meeting INSTRUMENT CLASS conditions as follows: Ceiling 200 through 1400 feet inclusive with visibility equal to or greater than 1/2 mile, and/or visibility 1/2 through 2-1/2 miles inclusive with ceiling equal to or greater than 200 feet.

NOTE: A percentage frequency of ".0" in these tables represents one or more occurrences amounting to less than ".05" percent.

*Values for means and standard deviations do not include measurements from incomplete months.

2

SURFACE WINDS

FROM DAILY OBSERVATIONS

60-82

YEARS

DAILY PEAK GUSTS IN KNOTS

NOTES * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 0-88-5 (OLA)

\$ (BASED ON LESS THAN FULL MONTHS AND +100 KNOTS)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS JAN NORTH
0000-2359 HOURS (L.S.T.)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	1.6	3.9	4.9	1.8	1.9	.4					15.5	13.1
NNE	.3	.2	.4	.4								1.4	7.8
NE	.4	.1										.5	2.6
ENE	.1	.1	.1									.3	5.7
E	.2	.2	.5	.1								1.1	7.3
ESE	.1	.9	.3									1.3	6.0
SE	.3	1.6	.8	.3								3.7	6.6
SSE	1.2	1.0	1.6	1.9	.1							5.8	6.3
S	1.0	2.7	3.7	1.9	1.7							10.2	6.9
SSW	.9	1.3	1.2									3.3	5.2
SW	1.2	2.3	.2									3.7	4.3
WSW	.6	1.1	.6	.2								2.6	5.7
W	1.1	4.5	3.2	2.0	.2	.1						11.4	7.8
WNW	.6	2.6	3.0	2.5	.9	.3	.1					10.0	10.1
NW	.8	1.4	3.9	3.3	1.3	.2						10.9	10.7
NNW	.5	1.0	3.1	3.3	1.1	.6	.3	.1				10.1	12.4
VARBL													
CALM												3.9	
	10.4	22.5	26.6	21.0	6.4	3.2	.9	.1				100.0	9.7

TOTAL NUMBER OF OBSERVATIONS 927

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORMS AFB ND
STATION NAME

73-82
YEARS

JAN
MONTH

ALL WEATHER
CLASS

0000-2500
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	1.6	4.2	4.6	2.2	1.7	.5	.1				15.4	13.6
NNE	.1	.3	.1	.1								.8	6.2
NE		.2	.1									.3	6.7
ENE	.1	.2		.3								.5	8.8
E	.2	.1	.4									.3	5.9
ESE	.1	.3	.8									1.7	6.6
SE	.2	1.3	1.5	.3								2.5	6.7
SSE	1.2	1.7	2.4	1.7	.3							7.5	6.3
S	1.4	3.9	3.1	1.9	.5							10.3	7.9
SSW	.5	1.4	.8	.1								2.8	5.4
SW	.4	1.5	.3	.1								2.4	5.1
WSW	.5	1.5	.9	.8	.2							3.9	7.6
W	1.7	4.9	4.3	1.5	.5	.2						13.2	7.7
WNW	.5	2.5	3.0	3.2	.4	1.2						11.9	10.9
NW	.4	1.3	2.9	2.6	.5	.5	.2					8.5	11.1
NNW	.8	2.9	3.8	2.0	.8	.1	.2	.1				10.6	9.9
VARBL													
CALM												7.2	
	6.7	26.3	28.0	19.4	5.5	3.8	1.0	.2				100.0	6.8

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS JAN MONTH
ALL WEATHER CLASS 1600-1800 HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.8	3.3	5.2	2.5	1.3	.2					15.3	13.2
NNE	.2	.4	.2	.3								1.2	6.4
NE	.1	.3		.1								.5	6.6
ENE		.1	.1									.2	5.5
E	.3	.7	.4									1.0	5.7
ESE	.5	.1	.3	.3								1.3	6.3
SE	.6	1.9	1.6	.1								4.3	6.2
SSE	.8	1.9	2.6	1.0	.9							7.1	6.8
S	1.7	3.7	4.5	3.2	.5	.1						12.2	7.9
SSW	.6	1.2	1.2	.1								3.1	5.7
SW	.9	1.3	.6	.1								2.9	5.2
WSW	.2	1.3	.8	.9	.5							3.7	9.4
W	1.6	3.7	3.2	1.3	.6							11.4	7.4
WNW	1.4	3.4	3.3	3.0	1.1	.6						13.2	9.4
NW	.6	.8	3.2	2.9	.4	.4	.1	.3				6.8	11.9
NNW	.3	1.7	2.3	3.1	.6		.1	.1				8.3	11.0
VARBL													
CALM												0.6	
	17.6	24.2	27.2	22.5	7.5	2.5	.4	.4				122.2	8.7

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORKS AFB ND 73-82 JAN
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
200-1100
HOURS (LST)

CORDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.3	3.7	5.9	3.7	1.5	.2	.3				16.3	14.1
NNE	.1	.1	.3	.1								.5	6.7
NE	.1	.3	.3	.2								1.0	6.7
ENE	.1											.1	2.0
E	.2	.5	.4	.2								1.4	6.5
ESE	.1	.3	.3									1.3	5.7
SE	.2	1.1	1.5	.3								3.1	7.2
SSE	.8	1.4	1.8	1.4	.1							5.5	7.8
S	2.5	2.9	3.7	2.4	2.5							13.7	9.5
SSW	.5	1.8	1.2	.2								2.8	6.1
SW	.9	1.4	.9	.1	.1							3.3	5.8
WSW	.6	1.3	.4	.5								2.9	6.1
W	1.5	4.1	3.0	2.6	.5							11.0	8.0
WNW	.4	1.5	2.4	3.8	1.1	.9	.3	.1				1.3	13.3
NW	.2	1.2	2.0	2.8	1.2	.1	.2	.1				8.7	11.9
NNW	.6	1.3	3.5	2.3	1.1	.1						8.6	15.4
ARBL													
CALM												8.0	
	9.1	21.0	26.0	22.8	9.4	2.5	.8	.5				100.0	9.3

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-8 YEARS JAN MONTH
ALL WEATHER CLASS 1257-1400 HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	1.4	4.2	7.2	2.9	1.1	.2	.4				10.5	13.5
NNE	.8	.3	.5	.3								1.7	6.2
NE	.1	.1		.1								.3	7.7
ENE	.1	.1		.1								.3	6.7
E		.8	.2	.3								1.3	7.3
ESE	.3	.8	1.0	.1								2.2	6.7
SE	.4	.9	1.1	.2	.1							2.7	7.2
SSE	.3	1.7	2.6	1.3	.3							5.5	9.1
S	1.3	1.7	3.0	3.3	2.3	.1						11.7	10.7
SSW	.4	1.5	1.5	.6								4.1	7.8
SW	.5	1.7	1.5	.2								3.2	6.4
WSW	.2	.8	.8	.6								2.4	7.7
W	.4	1.9	2.7	3.2	.4			.1				8.8	10.1
WNW	.4	.9	3.2	2.9	1.0	.3	.1	.2				9.7	11.9
NW	.6	1.8	2.4	4.4	2.4	.8	.8	.1				13.2	13.7
NNW	.4	1.2	2.3	4.0	1.1	.6						9.6	12.2
VARBL													
CALM												5.1	
	7.5	16.2	26.9	29.7	10.4	2.9	1.1	.9				100.0	10.5

TOTAL NUMBER OF OBSERVATIONS 530

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JAN 1500-1700
STATION STATION NAME YEARS MONTH HOURS (LST)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	1.7	4.9	7.1	2.5	.5	.2	.2				18.2	12.6
NNE	.2	.4	1.0	.5								2.2	8.7
NE	.2	.2										.4	3.3
ENE	.1	.3	.2									.6	5.2
E	.6	.5	.6	.2								2.9	5.6
ESE	.9	1.2	1.1	.3								3.4	5.8
SE	.6	1.2	1.5	.3								3.7	6.6
SSE	.5	2.3	1.9	2.4	.2							7.3	6.6
S	.4	2.6	2.4	3.5	1.2	.4						10.5	11.0
SSW	.1	1.2	1.3	.2								2.8	7.3
SW	.1	1.3	.6	.6								2.7	7.7
WSW	.4	1.0	.8	.3	.1	.1						2.7	8.0
W	.3	2.6	3.7	1.7		.1						8.4	8.6
WNW	.5	1.8	2.8	2.6	.1	.2	.4					8.5	10.4
NW	1.1	1.5	2.5	3.9	1.5	.9	.3					11.6	12.3
NNW	.5	1.0	2.3	4.3	.9	.8	.2					9.9	12.6
VARBL													
CALM												5.3	
	7.5	20.8	27.5	28.1	6.5	3.0	1.2	.2				100.0	9.8

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS JAN MONTH 1872-2022 HOURS (LST)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	2.3	4.3	4.4	2.7	1.4	.3	.1				15.5	12.7
NNE	.2	.4	.5	.5								1.9	7.8
NE	.2	.6	.3	.1								1.3	5.7
ENE	.4	.8	.2									1.4	4.2
E	1.2	.9	.2									2.3	4.2
ESE	.1	.5										.5	3.7
SE	1.6	1.2	.4	.2								3.4	4.5
SSE	.5	2.2	3.9	1.2	.4							9.2	8.6
S	.5	2.4	3.2	2.5	1.3	.8						15.9	11.2
SSW	1.4	1.4	.8	.3								3.9	5.2
SW	.3	.8	.9	.5								2.5	7.3
WSW	.8	1.5	.5	.5	.1	.1						3.5	6.9
W	1.7	3.9	2.8	3.0	.4							11.8	7.9
WNW	.9	2.6	2.9	2.2	.2	.4	.2					9.4	9.7
NW	.5	1.3	3.1	3.7	1.2	.5						10.3	11.4
NNW		1.1	1.9	2.0	.9	.3	.4	.1				6.8	13.2
VARBL													
CALM												0.6	
	11.1	23.9	26.0	21.2	6.6	3.5	1.0	.2				100.0	8.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORMS AFB ND 73-82 JAN
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	2.2	5.1	3.2	2.0	1.8	.4					15.6	12.4
NNE	.3	.9	.5	.3	.1							2.2	7.3
NE	.1	.5	.1									.3	5.0
ENE	.4											.4	2.5
E	.1	.1	.3									.5	7.0
ESE	.2	.5	.2									1.0	4.9
SE	.3	1.6	.5	.1	.1							2.7	5.7
SSE	.6	2.0	1.2	1.7	.2							5.9	8.7
S	1.1	3.6	3.4	2.2	.6	.5						11.4	9.2
SSW	1.0	2.0	.9	.6								4.5	6.3
SW	1.0	2.0	.2									3.2	4.4
WSW	.8	2.0	.3	.3								3.4	5.4
W	1.2	2.9	3.7	2.2	.5		.1					10.5	8.5
WNW	.4	3.2	3.3	2.3	.5	.3	.1					10.2	9.4
NW	.6	1.9	3.1	2.3	.8	.2	.1					9.0	10.0
NNW	.4	1.6	2.6	2.3	2.0	.9	.5	.1				11.3	13.4
VARBL													
CALM												8.3	
	9.5	27.2	25.5	17.4	7.7	3.7	1.3	.1				170.0	8.7

TOTAL NUMBER OF OBSERVATIONS 929

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORMS AFB ND 73-82 YEAR MONTH JAN
ALL WEATHER CLASS ALL HOURS (L & T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	1.7	4.2	5.3	2.4	1.4	.3	.1				16.3	13.1
NNE	.3	.4	.5	.3	.0							1.5	7.3
NE	.2	.3	.1	.1								.9	5.4
ENE	.2	.2	.1	.1								.5	5.2
E	.4	.4	.4	.1								1.3	5.9
ESE	.3	.7	.5	.1								1.6	5.9
SE	.6	1.3	1.0	.2	.7							3.2	6.3
SSE	.7	1.7	2.2	1.6	.3							6.6	8.6
S	1.2	2.9	3.3	2.5	1.2	.2						11.3	9.5
SSW	.7	1.5	1.1	.3								3.5	6.2
SW	.7	1.4	.7	.2	.0							3.0	5.7
WSW	.5	1.3	.6	.5	.1	.7						3.1	7.1
W	1.2	3.6	3.3	2.2	.4	.1	.0	.0				10.9	8.2
WNW	.7	2.4	3.0	2.8	.7	.5	.2	.0				10.2	10.6
NW	.6	1.4	3.0	3.2	1.2	.5	.2	.1				10.1	11.7
NNW	.5	1.5	2.7	2.9	1.7	.4	.2	.1				9.3	11.9
VARBL													
CALM												7.0	
	9.3	22.8	26.7	22.4	7.4	3.1	.9	.3				100.0	9.2

TOTAL NUMBER OF OBSERVATIONS 7436

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS FEB
STATION NAME CLASS 0000-0200
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	1.4	3.8	6.4	3.1	1.3	.4					17.4	12.9
NNE	.5	.1	.2	.4								1.2	7.3
NE	.2	.2	.2									.7	4.7
ENE	.1	.4										.5	4.5
E	.7	.8	.7	.1	.1							2.5	6.1
ESE	.1	1.1	.1									1.3	5.2
SE	.4	.6	.6	.1								1.7	6.1
SSE	.2	1.3	1.3	2.2	.9	.2						6.3	11.3
S	.6	1.9	3.8	1.9	1.8	.2	1					13.3	10.8
SSW	.7	1.8	.8	.1								3.4	5.4
SW	.9	2.4	.5	.4								4.1	5.5
WSW	1.2	1.7	.9	.2	.1							4.1	5.9
W	.9	4.6	3.8	1.1	.4							10.8	7.2
WNW	1.3	1.5	2.4	.9	.4							6.5	7.8
NW	.7	3.1	1.9	2.5	.4	.4						8.9	8.9
NNW	.6	2.4	5.3	3.2	.6	.7						12.8	10.3
VARBL													
CALM												7.7	
	10.3	25.7	26.4	19.5	7.7	2.8	.5					170.2	8.6

TOTAL NUMBER OF OBSERVATIONS 646

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORMS AFB ND STATION NAME 73-82 YEARS FEB NORTH
ALL WEATHER CLASS 1322-2572 HOUR (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.9	3.3	4.4	1.9	1.1	.1					13.2	12.4
NNE	.1	.7	.9	.4								2.1	7.7
NE	.5	.7	.4									1.5	4.9
ENE	.4	.6	.1									1.1	4.8
E	.4	.5	.5									1.3	5.2
ESE	.1	.7		.4	.1							1.3	6.3
SE	.2	.8	.5	.5								2.0	7.5
SSE	.4	1.8	3.3	2.0	.4							7.8	9.2
S	.5	3.2	2.2	2.4	1.4	.1						9.9	9.9
SSW	.9	.7	.6									2.2	4.5
SW	1.2	1.7	.1	.4	.1							3.4	5.4
WSW	.6	1.7	.7	.2								3.2	6.2
W	.6	5.3	4.0	1.9	.4	.1						12.3	7.8
WNW	.6	2.4	2.0	2.0	.1							7.1	8.1
NW	1.1	2.1	3.2	1.7	1.2							9.2	9.1
NNW	1.3	4.0	4.3	3.4	.6	1.1	.4					15.3	10.1
VARBL													
CALM												7.3	
	9.3	28.7	26.1	19.5	6.1	2.4	.5					122.0	8.3

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 FEE
STATION STATION NAME YEARS MONTH
ALL WEATHER 0600-2800
CLASS HOURS (L & T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	2.6	3.9	5.7	1.7	.7						16.2	11.7
NNE	.1	.8	.8	.5								2.2	7.7
NE	.1	.2	.5									.8	6.4
ENE	.1	.6	.2									.9	5.3
E	.5	.7										1.2	3.7
ESE	.1	1.1		.4								1.5	7.4
SE	.1	1.2	1.2	.7	.2							3.4	8.6
SSE	.5	1.5	2.5	2.1	.2	.4						7.2	9.8
S	.7	2.6	2.6	2.4	.4	.4						9.1	9.3
SSW	.2	1.4	.5	.2								2.4	6.3
SW	1.1	1.9	1.1	.4								4.4	5.4
WSW	.4	1.8	.6	.4	.2	.1						3.4	7.5
W	1.1	3.3	2.8	1.1	.4	.2						8.9	7.8
WNW	.7	3.7	2.7	1.5	.5							9.1	6.1
NW	.6	2.1	4.3	1.8	.7	.1						9.6	9.1
NNW	.9	3.7	3.0	2.5	.7	.9	.2					11.2	10.5
VARBL												8.5	
CALM													
	7.8	28.5	26.6	20.6	5.2	2.8	.2					100.2	8.3

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORMS AFB MO 73-8 YEARS FEB NORTH
ALL WEATHER CLASS 940-1100 HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	3.1	5.6	8.2	2.2	.7	.1					2.2	11.7
NNE	.1	.4	1.3	.6	.1							2.5	9.1
NE		.2	.7									.7	6.3
ENE	.2	.4	.9									1.5	6.4
E	.2	.1	.2									.9	5.2
ESE	.2	.5	.1	.2	.1							1.2	8.1
SE	.1	.9	1.1	.4	.1							2.6	8.1
SSE		.7	2.4	3.8	.2							7.1	11.6
S	.2	2.1	2.5	2.6	1.2	.5						9.1	11.2
SSW	.4	1.7	1.5	.7	.4							4.6	8.1
SW	.5	.8	1.2	.2								2.7	8.9
WSW	.1	1.1	.5	.6	.1							2.4	8.2
W	1.2	1.8	2.2	1.7	.4	.1						7.3	8.6
WNW	.5	.7	2.6	1.5	.4	.1						6.0	9.6
NW	.9	1.7	3.5	3.3	1.2	.1						10.8	10.2
NNW	.9	1.2	3.8	3.9	1.9	1.3						13.0	12.5
VARBL													
CALM												7.4	
	6.0	17.5	30.1	27.7	8.3	2.8	.1					100.0	9.6

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS FEB MONTH 12J3-14J6 HOURS (LST)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	2.4	6.1	7.9	3.7	1.7	.1					72.2	12.1
NNE	.4	.5	.6	.4	.1							1.9	6.2
NE			.8	.5								1.3	10.5
ENE	.4	.4	.4									1.1	5.4
E	.1	.2	1.1	.2								1.7	8.5
ESE	.1	.2	.1	.4								.6	9.3
SE	.1	.5	.9	.7	.2							2.5	9.9
SSE	.1	.5	1.1	3.0	1.1	.2						5.9	13.0
S	.5	2.5	2.8	3.3	1.9	.4						10.9	11.4
SSW	.4	1.4	1.1	.7	.5							4.0	8.6
SW	.5	1.1	2.0	.7	.1							4.4	7.9
WSW	.2	.6	.9	.6								2.4	8.0
W	.4	1.4	2.7	1.1	.2	.5						6.3	9.8
WNW	.4	.7	1.8	2.4	.8	.5						5.5	12.1
NW		1.4	2.8	4.1	.8	.1	.1					9.5	11.8
NNW	.8	2.7	4.0	4.3	2.1	1.1	.2					15.2	11.8
VARBL												3.5	
CALM													
	5.3	16.0	29.3	30.1	10.9	4.4	.5					100.0	10.7

TOTAL NUMBER OF OBSERVATIONS 646

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 FEB
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
15.2-17.2
HOURS (L & T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	3.1	8.0	7.9	3.3	1.7	.4					24.7	12.4
NNE	.5	1.4	.8	.4	.2							3.3	7.5
NE	.2	.9	.7	.6								2.5	7.3
ENE	.2	.2	.2	.1								.6	7.8
E	.5	.6	.8									1.9	8.1
ESE	.2	.1	.7	.4								1.4	8.3
SE		.6	.4	.9		.1						2.2	10.3
SSE	.1	.9	1.8	3.8	.8	.1						7.6	11.3
S	.6	2.4	4.1	2.5	.9	.2						10.3	9.8
SSW	.1	1.3	.9	.8	.1							3.3	8.6
SW	.5	.7	1.3	.7								3.2	7.9
WSW	.4	.5	.7	.8								2.4	8.6
W	.4	2.2	2.3	2.5	.1							7.2	9.1
WNW	.4	.7	1.7	3.1	.7	.2						6.7	11.6
NW	.6	1.2	2.6	2.2	.7	.1						7.4	10.2
NNW	.2	1.5	3.1	4.0	1.8	1.1	.2					11.9	13.2
VARBL													
CALM												3.1	
	5.0	18.4	29.9	30.7	8.7	3.5	.6					100.0	10.4

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-80 73-80
STATION STATION NAME YEARS
ALL WEATHER
CLASS
CONDITION
FEB
MONTH
1900-2000
HOURS (LST)

SPEED (KNTS) DIR	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	2.3	5.3	5.9	3.3	1.1						19.6	11.7
NNE	.7	1.3	1.6	.8								4.6	7.3
NE	.5	.8	.5									1.6	4.7
ENE	.6	.5	.4									1.7	4.6
E	.7	.4	.2									1.3	3.8
ESE		.7	.6									1.3	6.6
SE	.6	1.1	1.1	.5	.3							3.4	7.9
SSE	.4	1.9	3.1	2.4	.6	.5						8.7	10.3
S	.7	2.3	3.4	1.7	.2	.9						6.8	9.5
SSW	.4	.9	.8									2.1	5.8
SW	1.1	1.2	.8	.1								3.2	5.3
WSW	.6	1.1	.7	.9								3.5	7.2
W	.7	3.2	.9	1.2	.1							6.1	7.0
WNW	.5	2.8	2.0	1.8	.8							7.9	9.1
NW	.8	1.7	2.6	2.1	.6							7.8	9.3
NNW	.8	1.5	3.3	3.1	1.5	.7						11.0	11.6
VARBL													
CALM												6.0	
	11.6	24.7	27.5	20.4	7.4	3.2						100.0	8.7

TOTAL NUMBER OF OBSERVATIONS 646

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 727575 GRAND FORKS AFB ND STATION NAME 73-82 YEARS FEB 1977-2300 HOURS (L S T)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.4	2.2	4.4	6.7	2.1	1.2						17.4	11.6
NNE	.4	.7	.7	1.3								3.1	5.7
NE	.4	.5										.3	3.1
ENE	.1	.7										.3	4.3
E	.5	.5	.6									1.3	5.5
ESE	.5	.7	.2	.1								1.3	5.2
SE	.4	.7	.8	.4								2.2	7.1
SSE	.8	1.2	1.9	2.1	.7	.4						7.1	12.5
S	.6	2.5	1.8	3.0	.9	.5	.1					9.3	12.3
SSW	.5	1.7	1.3	.1								3.0	5.7
SW	1.3	2.2	1.1	.4	.1							3.1	5.6
WSW	.7	2.1	.8	.6	.1							4.4	6.8
W	.9	3.7	1.9	1.2								7.7	6.8
WNW	.6	2.4	2.2	1.7	.2	.5						7.5	9.4
NW	1.1	1.5	3.7	2.1	.2		.2					9.1	5.9
NNW	.8	1.8	2.6	3.8	1.1	.4	.2					12.5	11.2
VARBL													
CALM												7.7	
	13.9	25.8	24.0	22.7	5.6	2.8	.6					122.3	5.5

TOTAL NUMBER OF OBSERVATIONS 496

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-8
YEARS

FEB
MONTH

ALL WEATHER
CLASS

ALL
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	2.4	5.1	6.7	2.6	1.2	.1					13.9	12.1
NNE	.3	.7	.9	.6	.1							2.6	7.2
NE	.2	.5	.5	.1								1.3	6.4
ENE	.3	.5	.3	.								1.0	6.3
E	.4	.5	.5	.3	.2							1.5	6.7
ESE	.2	.7	.2	.2	.2							1.3	7.1
SE	.2	.5	.6	.5	.1	.2						2.5	6.3
SSE	.3	1.2	2.2	2.7	.6	.2						7.2	11.9
S	.5	2.4	2.9	2.5	1.1	.4	.2					9.9	12.4
SSW	.4	1.4	.9	.3	.1							3.2	6.2
SW	.9	1.5	1.7	.4	.2							3.6	6.2
WSW	.5	1.3	.7	.5	.1	.2						3.2	7.1
W	.8	3.2	2.6	1.4	.2	.1						1.3	7.9
WNW	.6	1.9	2.2	1.9	.5	.2						7.2	9.4
NW	.7	1.9	3.1	2.5	.7	.1	.2					9.5	9.7
NNW	.8	2.3	3.7	3.5	1.3	.9	.2					12.6	11.3
VARBL													
CALM												6.4	
	3.2	23.1	27.5	23.9	7.5	3.1	.4					122.2	9.1

TOTAL NUMBER OF OBSERVATIONS

6768

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS MAR MONTH
1992-1992 HOURS (L & Y)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.7	2.7	3.3	2.7	1.4	.9	.3					13.2	12.5
NNE	.2	.8	1.1	.5	.8	.1						3.4	12.9
NE	.2	.3	.6	.1	.3							1.0	8.7
ENE	.3	.1	.3	.4								1.2	7.9
E	.3	1.2	.8	.5								2.8	7.2
ESE	.5	.8	.9	.1								2.3	5.8
SE	.2	2.3	1.3	.9	.2	.3						5.2	6.8
SSE	.3	1.4	2.0	1.5	.6							5.9	9.9
S	.4	2.9	3.4	1.5	1.7	.2						9.5	9.3
SSW	.5	1.7	.9	1.7								4.1	7.2
SW	1.1	1.4	1.2	.6								4.3	6.7
WSW	.9	1.7	.8	.6	.1							3.3	7.0
W	1.2	2.3	1.6	1.3	.2	.3						6.9	8.2
WNW	1.1	2.2	1.8	1.9	.1		.1	.2				7.4	9.1
NW	.9	2.2	2.8	1.6	.8	.2						8.4	9.1
NNW	1.5	2.2	3.9	1.2	1.5							10.2	9.0
VARBL													
CALM												10.5	
	11.4	25.2	26.7	16.6	7.0	2.2	.4	.2				100.0	8.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORKS AFB ND 73-82
STATION NAME YEARS
ALL WEATHER
CLASS
CONDITON

MAR
BORTH
3300-0500
HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	3.3	3.5	2.7	1.8	1.2						13.2	12.7
NNE	.6	.8	1.3	.6	.8	.1						4.2	9.9
NE	.3	.1	.3	.5	.3							1.6	9.9
ENE		.5	.3	.2								1.1	7.4
E	.2	1.3	.6	.3								2.5	6.7
ESE	.3	.6	1.5	.2								2.7	7.3
SE	.6	1.3	1.8	1.1	.1	.1						5.1	6.4
SSE	.8	.9	2.7	1.4	.5	.4						9.7	10.1
S	1.0	2.9	3.5	1.4	.6	.1						9.6	6.4
SSW	1.2	1.2	.9	.5	.1							3.9	6.6
SW	.4	1.5	.8	.6								3.3	7.3
WSW	.2	.5	.3	1.0								2.5	6.6
W	1.6	1.6	1.7	.9	.1							5.9	6.6
WNW	1.4	2.2	2.2	1.8	.4		.3					6.3	9.2
NW	.6	1.9	2.3	2.6	.8	.2						8.4	9.8
NNW	.6	2.6	2.5	1.5	1.4							8.6	9.6
VARBL													
CALM												12.4	
	11.3	23.2	26.2	17.4	7.7	2.2	.3					100.0	7.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS MAR MONTH 1642-7800 HOURS (L & Y.)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	2.7	4.1	3.5	2.4	1.1						14.5	11.6
NNE		1.3	1.0	.9	.3	.1						3.5	9.6
NE	.2	.9	.4	.3	.2	.1						2.2	8.9
ENE	.2	.6	.5	.4								1.3	7.4
E	.9	.6	1.2	.5								3.2	6.7
ESE	.6	1.1	1.4	.5								3.7	7.0
SE	.4	1.2	2.4	.9	.1							4.9	8.1
SSE	.1	1.3	1.7	2.3	1.7	.1						6.1	11.7
S	.6	2.2	2.5	1.8	.4	.3						7.8	9.2
SSW	.6	1.4	1.4	.2								3.7	6.5
SW	.2	.8	.6	.9								2.5	6.7
WSW	.3	1.3	.2	.5								2.4	6.6
W	.8	1.2	2.7	.9	.2							5.7	6.1
WNW	.8	1.9	1.9	2.7	.8	.3	.1					8.5	10.3
NW	.5	2.7	3.3	1.5	.6		.1					9.2	9.2
NNW	.6	2.7	3.8	1.5	1.5		.2	.1				10.4	10.3
VARBL													
CALM												13.9	
	7.7	22.8	29.1	19.4	7.5	2.0	.4	.1				100.0	8.4

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION 73-82
GRAND FORKS AFB ND
STATION NAME YEARS
ALL WEATHER
CLASS
3900-1100
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.6	2.9	4.6	7.5	3.0	1.4	.2					31.2	11.7
NNE	.3	1.1	1.0	.6	.3	.4						3.0	10.6
NE	.3	.6	.4	.2	.2							1.8	7.9
ENE	.1	.9	.5	.2	.1							1.7	8.1
E	.6	1.2	1.1	.6								3.5	7.1
ESE	.3	.1	1.0	.3	.2							1.9	6.8
SE	.3	.6	1.8	1.4	.2	.1						4.5	10.1
SSE	.4	1.8	1.4	3.3	1.2							6.2	11.0
S	.3	1.3	2.3	4.1	1.8	.4						11.2	12.6
SSW	.4	.5	1.5	.4								2.9	7.9
SW	.4	.6	.8	.1								1.9	6.3
WSW	.1	.3	.8	.6								1.3	9.1
W	.3	1.4	2.0	1.8	.2	.1						9.9	9.3
WNW	.4	.2	1.6	3.2	.5	.4	.1					6.6	12.6
NW	.5	.9	2.0	2.5	1.0	.2						7.0	11.1
NNW	.1	1.8	2.8	3.2	1.8	.3	.4	.3				10.9	13.0
VARBL													
CALM												6.1	
	6.8	16.1	25.6	30.3	10.6	3.4	.6	.3				100.0	12.4

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS 42 MONTHS 1237-1400 HOURS (LST)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	2.5	5.1	6.8	3.0	1.5	.3	.2				2.2	12.9
NNE	.3	1.4	1.8	1.2	.2	.3						5.3	9.6
NE	.5	.6	.5	.8								2.5	6.2
ENE	.3	.6	.9	.6	.2	.1						2.0	9.0
E	.3	1.1	.8	.8								2.9	7.8
ESE	.5	.4	1.7	.5		.1						3.3	8.4
SE	.4	1.4	.9	1.2	.3		.1					4.3	9.6
SSE	.4	.9	1.5	3.0	1.6	.4						7.7	12.8
S	1.0	1.5	2.3	4.1	1.7	.9						11.4	12.3
SSW	.4	.5	1.5	.5	.4	.1						3.5	9.8
SW	.1	.5	1.0	.1								1.7	7.6
WSW	.4	.6	.8	.6								2.5	7.9
W	.3	.2	2.4	2.2	1.0	.2	.1					6.3	12.4
WNW		.2	2.2	2.6	1.2	.2	.1					6.5	13.0
NW		.8	1.4	3.0	.9	.3						6.3	12.8
NNW	.5	.8	2.2	3.1	2.3	.6		.1				9.6	13.3
VARBL													
CALM												3.1	
	6.6	14.0	26.7	31.1	12.8	4.8	.6	.3				100.0	11.3

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 MAP
STATION STATION NAME YEARS MONTHS
ALL WEATHER 1500-1700
CLASS HOURS (L & T)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.9	4.9	5.7	2.9	1.7	.1	.2				18.2	13.2
NNE	.3	1.2	2.5	1.3	.8	.1						6.1	10.1
NE	.5	.8	.5	.9	.2							2.9	8.9
ENE	.2	1.2	1.7	.9	.1							3.3	8.5
E	.2	1.7	1.6	.5								4.1	7.4
ESE	.4	1.2	.8	.5	.2							3.1	6.3
SE	.3	1.7	1.7	1.9	.1							5.8	8.7
SSE	.6	1.1	2.3	2.8	1.5	.3						8.6	11.8
S	.8	2.4	1.9	3.5	1.1	.9						13.5	11.3
SSW	.3	.4	1.1	.2	.1	.2						2.4	9.6
SW	.2	.2	1.0	.5								1.9	8.7
WSW	.4	.3	.4	.3	.2							1.7	6.3
W	.1	.8	1.1	1.7	.6	.1						4.4	11.7
WNW	.2	.6	1.6	3.0	.6	.2	.1					6.5	12.4
NW	.4	.5	1.9	4.2	1.3	.4	.1					8.9	13.0
NNW		.5	2.3	4.3	1.4	.2						8.7	12.6
VARBL													
CALM												2.8	
	5.8	16.6	26.6	32.4	11.2	4.2	.3	.2				170.2	10.9

TOTAL NUMBER OF OBSERVATIONS 232

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

4AD
MONTH

ALL WEATHER
CLASS

1977-2000
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	4.7	3.9	6.7	1.0	.9	.2					17.8	11.9
NNE	.3	1.5	1.8	.9	.5	.1						5.2	9.4
NE	.1	1.5	.8	.8								2.1	7.8
ENE	.1	1.5	1.2	.4								3.2	7.1
E	1.1	1.4	1.2	.4	.1							4.2	6.2
ESE	1.0	1.9	.5	.1								3.5	4.9
SE	.8	2.9	2.4	.9	.3	.1						7.3	7.6
SSE	.8	2.2	2.9	2.9	.8							9.5	9.8
S	.6	1.9	2.6	2.0	1.1	.3						8.5	10.2
SSW	.1	.9	.8	.4	.1	.1						2.4	8.5
SW	.2	.8	1.0	.2								2.2	7.4
WSW	.1	.6	.3	.2	.1							1.4	8.5
W	.6	1.2	2.0	.8	.1		.1					4.3	8.1
WNW	.4	1.6	1.7	.8	.2	.2	.1					5.1	8.9
NW	.1	1.4	3.3	2.6	.6	.5	.1					8.7	11.3
NNW	.4	1.2	3.2	1.9	.9							7.6	9.9
VARBL													
CALM												5.5	
	8.1	26.3	29.6	21.9	5.8	2.3	.5					122.0	8.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS
ALL WEATHER CLASS
4100-2300 HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	2.6	3.0	3.8	1.7	.8						13.3	10.8
NNE	.4	1.1	.9	1.1	.4	.1						4.3	10.0
NE	.3	.4	.3	.3	.1							1.5	7.8
ENE	.5	.8	1.1	.1	.1							2.6	7.2
E	.2	1.3	1.1	.5								3.1	7.2
ESE	.4	1.3	.9	.1								2.7	5.6
SE	.9	1.9	1.4	.9	.3	.1						5.5	7.9
SSE	.9	2.4	1.7	2.9	.6							8.5	9.3
S	.6	3.2	2.2	1.8	1.2	.4						9.5	9.8
SSW	.4	1.6	1.1	.6								3.3	7.4
SW	.5	1.9	.4	.5								3.4	5.8
WSW	.4	1.9	.6	.4	.2							3.7	7.7
W	1.5	2.5	1.3	.6	.1			.1				6.1	6.6
WNW	.6	1.8	1.9	.6	.3		.1	.1				5.6	8.7
NW	.6	2.0	2.7	1.8	.5	.4						5.2	9.6
NNW	.5	3.1	3.1	1.3	1.1	.2	.2					9.6	9.8
VARBL													
CALM												9.4	
	10.2	29.9	23.7	17.5	6.8	2.0	.3	.2				100.0	8.3

TOTAL NUMBER OF OBSERVATIONS 939

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS
ALL WEATHER CLASS
CONDITON

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	2.5	4.1	4.9	2.2	1.2	.1	.1				10.5	11.7
NNE	.3	1.1	1.4	.9	.5	.2						4.4	1.2
NE	.3	.7	.5	.5	.2	.2						2.2	8.5
ENE	.2	.3	.7	.4	.1	.2						2.2	7.8
E	.5	1.2	1.0	.5	.2							3.3	7.2
ESE	.5	.9	1.1	.3	.1	.0						2.9	7.1
SE	.5	1.7	1.7	1.1	.2	.1	.2					5.3	8.5
SSE	.5	1.4	2.0	2.5	1.7	.2						7.6	12.8
S	.7	2.3	2.6	2.5	1.1	.4						9.6	1.5
SSW	.5	1.0	1.1	.5	.1	.1						3.3	7.8
SW	.4	1.0	.8	.5								2.7	7.2
WSW	.4	.8	.5	.6	.1							2.4	7.8
W	.8	1.4	1.9	1.3	.3	.1	.2	.2				5.8	8.8
WNW	.6	1.3	1.9	2.1	.5	.2	.1	.2				6.8	1.5
NW	.5	1.5	2.5	2.5	.8	.3	.2					8.2	12.7
NNW	.6	1.9	3.2	2.3	1.5	.2	.1	.1				9.4	11.2
VARBL													
CALM												7.6	
	8.5	21.8	26.8	23.3	8.6	2.9	.5	.2				122.2	9.2

TOTAL NUMBER OF OBSERVATIONS 7492

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIF WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

APR
MONTH

ALL WEATHER
CLASS

0000-0000
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	3.6	3.8	4.1	.3	.2	.2					13.2	9.5
NNE	.3	.8	.8	1.1	.1							3.1	6.9
NE	.4	1.2	1.6	.6								3.8	7.2
ENE	.1	2.7	.9	.4								3.3	6.7
E	.6	.8	1.0	.8								3.1	7.6
ESE	.6	.7	.9	.9	.1							3.3	7.7
SE	.4	1.4	1.0	.8	.3							4.5	8.2
SSE	.8	1.9	1.6	1.4	.2	.3						6.2	9.1
S	.8	2.7	3.3	2.3	.1							9.2	8.1
SSW	.3	1.9	.9		.1							3.2	5.8
SW	.9	2.7	1.3	.6								4.8	6.4
WSW	.2	1.3	.7	.2								2.9	5.8
W	1.6	2.2	1.2	.3								5.3	5.3
WNW	2.1	2.3	.7	.9	.2							5.2	6.2
NW	1.4	2.8	2.3	.9	.1							7.2	6.4
NNW	1.4	4.2	3.6	2.0	.7	.6	.1					12.6	8.9
VARBL													
CALM												8.7	
	13.0	32.2	25.0	17.3	2.3	1.1	.3					100.0	7.1

TOTAL NUMBER OF OBSERVATIONS 990

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS APR MONTH 0300-2500 HOURS (LST)
ALL WEATHER CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	3.8	4.3	3.0	.9	.6						14.3	4.7
NNE	.6	.6	.6	1.1	.1							2.9	5.8
NE	.7	.6	.4	.7								2.3	7.2
ENE	.3	.9	1.0	.3								2.5	7.2
E	.2	.7	2.2	.9								4.0	6.5
ESE	.3	.6	.7	.9								2.4	9.2
SE	.4	1.4	.9	.7	.6							4.2	8.8
SSE	.7	1.7	1.3	1.0	.3	.2						5.2	8.9
S	.7	2.4	3.0	1.0	.3							7.4	7.9
SSW	.6	1.7	.9	.3								3.4	5.8
SW	.3	1.7	1.3	.4								3.6	6.9
WSW	.6	1.3	.4	.2								2.6	5.5
W	2.2	2.3	.8	.9	.1							6.2	5.8
WNW	2.0	2.4	1.9	1.0			.1					7.4	6.5
NW	1.7	2.7	2.8	.6								7.7	6.2
NNW	1.8	4.3	3.9	3.2	.3	.1	.1					13.4	8.4
VARBL													
CALM												15.4	
	13.9	28.3	26.4	17.1	2.7	.9	.2					100.0	7.0

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-80 YEARS APR 1980 MONTH 1637-2670 HOURS (LST)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	4.7	7.3	5.3	2.1	.4	.1					25.0	1.5
NNE	.9	.9	1.1	.6	.2							3.7	7.5
NE	1.0	.3	.7	.4								2.9	6.2
ENE	.4	.1	.6	.3								1.4	7.1
E	.6	1.2	1.1	1.3								4.2	7.9
ESE	.7	.4	1.1	.8	.2							3.2	6.6
SE	.6	1.6	1.1	.9								4.1	7.4
SSE	1.0	1.6	1.4	1.9	.9	.3						7.1	10.2
S	1.6	1.4	1.9	1.7	.3	.2	.1					7.2	6.7
SSW	.4	.7	.9	.9	.2							3.1	6.9
SW	.6	1.4	.8	.4	.1							3.3	6.8
WSW	.9	.7	.7	.2								2.4	6.0
W	.8	2.2	1.3	.4	.2							5.5	6.9
WNW	1.0	.8	2.0	1.1	.1		.3					5.3	9.7
NW	1.1	1.4	2.4	1.4	.1							6.6	7.8
NNW	1.7	3.4	2.9	3.2	.7	.3						11.9	9.2
VARBL												0.3	
CALM													
	13.5	22.7	27.4	21.0	5.2	1.3	.5					100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 899

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 77-82 APR 80.7-1100
STATION STATION NAME YEARS MONTHS (LST)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.3	5.8	5.6	4.2	1.1	.7					24.7	12.9
NNE	.2	1.1	2.4	2.9	.6	.2						7.4	11.2
NE	.3	1.3	1.9	1.3	.3							5.2	9.7
ENE	.7	.4	.9	.3								2.3	6.8
E	.4	.7	1.7	1.3								4.3	8.5
ESE	.3	.4	1.7	1.1	.4							4.0	10.2
SE	.7	1.1	1.1	2.3	.3	.1	.1					8.5	11.6
SSE	.7	1.1	1.3	2.1	.8	.6						8.5	11.2
S	.9	1.1	2.1	3.3	1.1	.6	.1	.1				7.2	12.7
SSW	.3	.2	.2	1.3	.6	.3		.1				3.7	10.7
SW	.4	.7	.7	.7	.1	.1						2.9	8.5
WSW	.1	.2	1.2	.7								2.2	7.7
W	.3	1.7	1.2	1.3	.7	.2						4.0	10.7
WNW	.2	.9	.8	1.2	.1	.1	.4					3.3	12.4
NW	.4	.3	1.4	2.8	.6	.1						5.1	14.1
NNW	.8	1.3	.8	3.7	.9	.2						7.4	10.7
VARBL													
CALM												2.0	
	7.9	16.1	25.2	32.3	17.7	3.7	1.3	.2				100.0	12.8

TOTAL NUMBER OF OBSERVATIONS 922

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 APR
STATION MONTH
1200-1400
HOURS (LST)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	2.3	4.7	6.8	5.2	1.7	.6	.1				1.3	14.1
NNE		.8	2.3	2.1	.9	.3	.1					6.6	12.1
NE	.3	.4	1.9	2.0	.7	.2						5.1	11.1
ENE	.6	.8	.7	1.2								3.2	8.5
E	.7	.5	.6	2.3								4.3	9.8
ESE	.3	.9	1.2	1.9	.6							4.2	11.7
SE	.5	.8	1.7	1.7	.7	.3						5.7	11.3
SSE	.4	.3	1.1	2.4	1.7	.2	.1					6.8	13.3
S	.4	1.6	1.1	2.9	1.2	1.4	.1					7.8	13.5
SSW	.3	.4	.3	.9	1.7	.2						3.2	13.2
SW	.6	.6	1.2	.4	.1	.1						3.5	8.6
WSW	.1	.9	.4	.6								2.3	8.3
W	.4	.1	1.7	1.9	.2	.7		.1				5.1	13.1
WNW	.1	.7	.7	2.1	.6	.2	.2					4.5	13.2
NW	.2	.7	2.2	2.6	.4	.1	.1					6.3	11.5
NNW	.8	1.3	1.4	1.9	1.0	.5	.1					7.3	11.8
VARBL													
CALM												1.8	
	6.6	13.6	22.8	33.7	13.8	6.3	1.3	.2				100.0	12.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AL- WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS
ALL WEATHER CLASS
CONDITION
APR 15 12-1700 HOURS (L & T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	2.0	4.1	8.2	5.2	2.2	.1					22.3	14.1
NNE	.6	1.0	2.2	2.8	.7	.7						7.6	10.9
NE		1.0	1.6	1.7	.7	.2						5.1	11.5
ENE	.1	1.2	2.0	.6		.1						4.0	8.6
E	.5	.7	1.4	1.9								4.6	9.2
ESE	.4	.9	1.0	1.6	.3							4.2	9.5
SE	.4	1.3	2.0	2.7	.6							7.0	10.1
SSE	.1	1.7	1.8	3.0	1.1	.3						8.0	12.2
S	.3	1.0	1.2	2.2	1.4	.8						7.0	13.1
SSW	.3	.7	.8	.4	.9							5.1	11.4
SW	.2	.2	.2	.7	.2	.2						1.9	12.0
WSW	.2	.3	.7	.7	.1							2.0	9.5
W	.7	.6	1.6	2.8	.4	.4	.1					6.6	11.6
WNW	.2	.6	1.1	1.4	.4	.4	.3					4.0	13.3
NW	.6	.6	1.3	1.3	.6	.1						4.4	10.2
NNW	.2	1.7	.9	2.0	.4	.3						5.6	10.5
VARBL													
CALM												2.0	
	5.6	15.4	23.9	33.9	13.1	5.6	.6					100.0	11.5

TOTAL NUMBER OF OBSERVATIONS 899

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS
APD MONTH 1800-2200 HOURS (LST)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	3.6	5.9	8.9	3.3	.5	.4					23.4	12.4
NNE	.6	1.7	1.3	2.1	.3	.1						6.1	9.4
NE	.4	1.7	1.3	.9	.2							4.6	8.1
ENE	.8	1.2	1.6	.9								4.4	7.4
E	1.7	1.6	2.3	1.2	.3							7.1	7.4
ESE	.6	.9	1.3	1.4	.1							4.3	6.7
SE	.7	2.1	3.3	1.1	.1							7.3	7.7
SSE	.4	1.2	2.3	1.8	.4							6.9	9.1
S	1.1	1.9	2.3	1.2	.6							7.1	6.1
SSW	.1	.7	.9	.4	.2							2.3	5.9
SW	.2	1.7	.7	.2								2.1	6.5
WSW	.2	.7	.7	.4								2.5	7.7
W	.3	1.4	1.0	1.0								3.8	8.2
WNW	.2	.7	1.3	1.4	.1							3.8	9.9
NW	.6	.4	1.3	1.1	.6	.1						4.1	10.6
NNW	.4	1.2	1.1	1.3	1.1							5.2	10.5
VARBL													
CALM												5.3	
	9.1	22.6	28.8	25.6	7.4	.8	.4					120.0	6.9

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AF WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION 73-82 YEARS MONTH APR 1977-1978 HOURS (LST)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	2.0	3.4	4.3	5.7	.4	.7	.1					10.2	9.6
NNE	.3	.7	1.8	1.4	.1							4.3	9.3
NE	.7	1.7	1.1	.3								3.3	6.3
ENE	1.2	1.3	1.0	.3								4.3	5.4
E	.8	1.7	1.7	1.0	.3							5.4	8.5
ESE	.7	1.6	1.6	.6								4.3	6.7
SE	.4	2.1	2.8	1.0	.1	.1						6.6	7.9
SSE	.4	2.6	2.3	1.3	.6	.1						7.3	8.7
S	.3	3.3	1.4	1.0	.4							6.6	7.6
SSW	.6	1.1	.9	.2								2.3	6.2
SW	.4	1.4	1.2									3.1	6.7
WSW	.2	.7	.4									1.3	5.8
W	1.7	2.0	.9	.3	.1							5.0	5.4
WNW	.8	.9	1.1	.8	.1	.1						3.6	8.2
NW	1.1	2.9	1.6	1.1	.1							6.3	6.7
NNW	.8	2.3	3.6	1.9	.4	.2						9.2	9.1
VARBL													
CALM												9.1	
	12.4	30.1	27.7	17.0	2.8	.9	.1					10.2	7.1

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS
ALL WEATHER CLASS
ALL MONTHS (L.B.Y.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	3.1	4.9	6.2	2.7	.9	.3	.0				19.1	11.8
NNE	.4	.7	1.6	1.8	.4	.1	.3					5.2	10.1
NE	.5	1.1	1.3	1.0	.2	.1						4.1	6.7
ENE	.5	1.1	1.1	.6		.7						3.2	7.2
E	.7	1.0	1.5	1.3	.1							4.6	8.3
ESE	.5	.8	1.2	1.1	.2							3.8	9.0
SE	.5	1.5	1.7	1.4	.3	.1	.0					5.6	9.0
SSE	.6	1.6	1.7	1.9	.8	.3	.7					6.8	10.4
S	.8	1.9	2.1	2.0	.7	.4	.0	.0				7.8	10.0
SSW	.4	1.0	.7	.6	.4	.1		.3				3.1	9.2
SW	.5	1.2	.9	.4	.1	.1						3.1	7.4
WSW	.3	.8	.7	.4	.2							2.2	7.2
W	1.0	1.4	1.2	1.1	.2	.2	.0	.0				5.2	6.4
WNW	.8	1.2	1.2	1.3	.2	.1	.2					4.7	9.4
NW	.9	1.5	1.0	1.5	.3	.1	.0					6.2	8.5
NNW	.9	2.5	2.3	2.3	.7	.3	.0					9.1	9.6
VARBL													
CALM												0.0	
	10.2	22.5	25.9	24.7	7.3	2.6	.6	.1				100.0	9.1

TOTAL NUMBER OF OBSERVATIONS 7198

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIF WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS MAY MONTH
ALL WEATHER CLASS 0000-0200 HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	3.7	3.1	2.3	.6	.1						11.2	6.5
NNE	.1	1.5	.5	.2								2.4	6.4
NE	.8	.6	.8	.3								2.5	6.5
ENE	.5	1.3	1.3	.4								3.2	6.7
E	1.0	1.9	1.1	.5								4.5	6.2
ESE	.2	1.2	.8	.4								2.5	7.0
SE	.3	2.2	1.6	1.1								5.2	7.6
SSE	1.0	2.5	3.8	2.6	.1							9.9	6.2
S	2.2	3.3	2.0	.6	.2							8.4	6.1
SSW	.5	1.6	1.1	.1								3.3	5.7
SW	1.2	1.6	.9	.9								4.5	6.4
WSW	2.0	1.3	.8	.2								4.3	4.6
W	1.9	2.5	1.4	.2	.1							5.1	5.2
WNW	1.2	1.5	.9	1.5								5.1	7.2
NW	1.6	1.9	2.2	1.1	.2							7.2	7.2
NNW	1.1	3.1	2.2	1.6	.4							8.4	7.5
VARBL													
CALM												11.7	
	16.8	31.4	24.2	14.1	1.7	.1						100.0	6.1

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 MAY
STATION STATION NAME YEARS MONTH

ALL WEATHER
CLASS

330-2500
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	2.9	3.3	2.9	.8	.1						11.2	9.1
NNE	.9	1.1	.4	.1								2.3	4.8
NE	.3	1.7	1.4	.4								3.1	6.8
ENE	.4	.9	.4									1.7	4.9
E	.9	1.7	1.1	.4	.1							3.4	6.9
ESE	.6	.6	.9	.5								2.7	7.2
SE	.8	2.7	2.3	.8	.1							5.9	7.1
SSE	1.0	2.2	2.0	1.1	.2							6.5	7.2
S	1.7	3.3	3.7	.6	.1							9.5	6.4
SSW	.8	1.7	1.2	.3								3.2	6.6
SW	1.2	1.7	1.3	.9								5.1	6.7
WSW	1.6	1.7	.6									3.2	4.2
W	1.3	2.6	1.1	.6								5.6	5.9
WNW	1.1	2.8	1.2	.9								5.9	6.2
NW	2.4	3.4	2.4	1.2	.2							9.6	6.6
NNW	1.3	3.3	2.7	.6	.3							8.3	6.9
VARBL													
CALM												12.7	
	17.3	30.8	25.9	11.4	1.8	.1						100.7	5.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS MAY MONTH
ALL WEATHER CLASS 0600-2000 HOURS (L E T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	3.2	4.7	5.5	.6							15.1	9.5
NNE	1.0	1.1	1.9	.6	.1							4.7	7.1
NE	.4	.8	1.4	.5	.1							3.2	8.2
ENE	.6	.9	1.2	.1								2.8	6.1
E	.8	1.0	1.2	.3								3.2	6.5
ESE	.3	1.1	1.3	.9		.1						3.7	8.6
SE	.9	2.4	1.7	1.1	.1							6.1	7.1
SSE	.5	2.4	2.2	2.3	.3							7.6	8.8
S	1.2	3.2	3.1	2.3	.5							10.3	8.1
SSW	.6	.9	1.0	1.0	.1							3.5	8.5
SW	.6	.8	.8	.6	.2							3.0	7.8
WSW	.8	.9	.2	.5								2.4	6.0
W	1.0	1.4	1.6	1.3	.5							5.8	8.4
WNW	1.1	1.0	1.4	1.0	.1							4.5	7.4
NW	.6	2.5	1.4	2.2	.2							6.9	8.6
NNW	1.1	2.2	2.8	1.9	.4							8.4	8.2
VARBL													
CALM												3.7	
	12.5	25.4	27.8	22.0	3.4	.1						100.0	7.5

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575
STATION

GRAND FORMS AFB ND
STATION NAME

73-82
YEARS

MAY
MONTH

ALL WEATHER
CLASS

930-1100
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	1.4	4.5	7.3	1.5	.2						15.2	11.4
NNE	.9	1.2	1.6	1.7								3.4	7.9
NE	.5	1.1	1.5	1.1	.1							4.3	6.2
ENE	.6	.9	.9	.4	.1							2.9	7.5
E	.4	1.6	2.0	.9								4.9	7.3
ESE	.8	1.4	1.5	.9								4.5	7.2
SE	.5	1.7	1.4	1.5	.5	.2						5.2	10.2
SSE	.2	2.3	2.6	3.4	1.3	.2						11.5	11.0
S	.3	1.7	4.1	4.2	1.1	.2						11.6	11.0
SSW	.2	.6	.4	.9	1.1							3.2	12.5
SW	.3	.8	.9	1.7	.6							4.3	10.8
WSW	.4	.9	.9	.5	.2							2.7	6.7
W	.4	.4	1.0	1.1	.6	.1						3.7	11.0
WNW	.4	.5	.8	2.7	.4							4.8	11.3
NW	.1	.8	1.1	2.5	.9							5.3	12.3
NNW	1.4	1.4	2.2	2.8	.3	.2						8.3	9.4
VARBL													
CALM												2.8	
	8.6	17.8	27.2	33.5	8.8	1.2						100.0	9.9

TOTAL NUMBER OF OBSERVATIONS

930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORMS AFB MD 73-82 YEARS MAY MONTH
12-12-1400 HOURS (LST)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	1.4	4.1	6.7	2.2	.4						15.6	12.0
NNE	.1	.8	1.9	1.3	.4							4.5	10.0
NE	.5	1.0	1.7	.8	.1							4.1	7.9
ENE	.4	1.3	2.0	1.1	.1							4.9	8.3
E	.3	1.1	2.7	1.3	.1							4.3	8.8
ESE	.1	.9	1.0	.9								2.3	8.5
SE	.4	1.1	3.0	2.4	.3	.1						7.3	9.7
SSE	.3	1.8	3.8	2.8	1.3	.9						15.9	11.7
S	.5	2.0	1.8	3.9	2.5	1.3						12.3	13.2
SSW	.4	.1	.5	.5	1.2							2.3	12.7
SW	.9	.6	1.3	1.3	.2							4.0	9.1
WSW	.3	.2	1.0	1.1	.2							2.8	10.3
W	.3	.3	1.2	1.9	.6	.5						4.9	13.0
WNW	.4	.4	.5	1.4	.3	.1						3.2	11.0
NW	.3	.6	1.3	2.2	.9							5.3	11.7
NNW	.1	.5	1.9	2.9	1.3	.2						7.0	12.6
VARBL													
CALM												3.0	
	6.5	14.2	28.8	32.3	11.7	3.5						100.0	10.8

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

MAY
MONTH

ALL WEATHER
CLASS

1500-1700
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.3	2.7	3.2	5.2	2.3	1.2						14.3	12.3
NNE	.2	.5	2.6	1.1	.2							4.8	9.3
NE	.6	.3	2.4	1.7								4.7	6.3
ENE	.2	1.2	.6	1.0								3.3	6.3
E	.6	1.3	2.4	1.7	.3							6.3	8.6
ESE	.2	.8	2.3	.2								3.2	7.6
SE	.3	1.1	2.7	2.3	.4	.1						6.9	10.2
SSE		1.4	1.9	2.9	1.3	.4						8.1	12.1
S	.4	1.7	2.9	3.2	2.3	1.1						11.4	12.5
SSW	.6	.2	1.1	1.0	.5	.2						3.7	11.1
SW		.9	1.0	1.2	.2							3.2	10.1
WSW	.9	.2	1.6	1.4								4.1	8.7
W	.6	1.3	1.3	1.3	1.7							5.5	10.1
WNW	.4	.3	1.0	1.8	.6	.1						4.3	11.7
NW	.1	.8	1.9	2.6	.4							5.8	10.9
NNW	.1	.8	2.4	2.6	1.3	.2						7.3	12.3
VARBL													
CALM												2.9	
	5.8	16.7	31.7	30.3	12.6	3.3						120.0	10.5

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 4 MAY
STATION STATION NAME YEARS MONTH
ALL WEATHER 1972-2000
CLASS HOUR (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	3.5	4.8	4.7	3.3	.2						16.1	12.9
NNE	.2	1.5	3.1	.9								5.7	8.1
NE	.2	1.3	1.3	.9								3.7	7.9
ENE	.3	1.5	1.5	.4								3.3	7.1
E	.6	2.0	4.1	.8	.1							7.6	7.8
ESE	.3	1.6	1.3	.8	.1							4.1	7.6
SE	.5	2.2	3.5	1.6	.1							8.7	6.3
SSE	.9	1.3	2.4	2.7	1.7							3.2	10.3
S	.2	2.5	2.6	2.5	.5	.2						8.5	9.8
SSW	.4	1.3	.6	1.2	.2							3.8	8.8
SW	.2	.6	.6	.6	.1							2.3	6.6
WSW	.5	.5	.3		.2							1.6	6.7
W	.5	1.1	.9	.9	.4	.1						3.9	9.5
WNW	.8	.9	1.3	1.1	.2							4.2	8.4
NW	.3	1.4	2.0	1.0	.5							5.3	9.5
NNW	.5	1.6	1.8	1.6	.5	.2	.1					6.5	10.5
VARBL													
CALM												5.2	
	9.0	24.8	32.3	21.5	7.4	.8	.1					100.0	8.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORMS AFB MO 73-84 MAY
STATION STATION NAME YEARS
ALL WEATHER
CLASS
11.2-2332
HOURS (L & T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	2.2	3.2	4.6	3.1	1.5	.1						14.7	9.1
NNE	.6	1.7	1.5	.3								4.4	6.6
NE	.3	1.5	.8	.3								2.9	6.3
ENE	.6	1.8	1.4	.3								4.2	6.2
E	1.0	3.3	2.3	.9								7.4	6.4
ESE	.8	1.4	2.4	.2								4.7	6.7
SE	.5	2.2	3.2	1.9	.1							3.0	6.4
SSE	.6	1.8	2.5	2.0	.2							7.2	6.5
S	1.0	3.8	2.3	.3	.2							7.5	6.4
SSW	.9	1.4	.6	.5	.1							3.5	6.8
SW	1.1	1.6	.6	.4								3.3	5.6
WSW	.1	1.4	.2	.4								2.2	6.7
W	2.5	1.4	.9	.6								3.4	5.1
WNW	.8	.5	1.8	.5								3.7	7.6
NW	.4	1.3	1.6	1.2								4.5	6.1
NNW	1.1	1.5	1.9	.9	.3	.1						5.9	7.8
VARBL													
CALM												15.0	
	14.4	37.2	28.6	14.1	2.5	.2						100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS MAY MONTH

ALL WEATHER
CLASS

ALL
HOURS (L & T)

CONDITION

SPEED (KNTS) DIR	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	2.5	4.1	4.7	1.6	.3						14.5	12.5
NNE	.5	1.2	1.7	.8	.1							4.3	7.9
NE	.5	1.7	1.4	.7	.0							3.5	7.6
ENE	.3	1.2	1.2	.5	.0							3.3	7.1
E	.7	1.7	2.0	.8	.1							5.3	7.4
ESE	.4	1.1	1.4	.6	.7	.7						3.5	7.5
SE	.5	1.7	2.4	1.6	.2	.1						6.6	8.6
SSE	.6	1.9	2.6	2.5	.7	.2						5.5	9.9
S	.9	2.7	2.6	2.2	.9	.3						9.9	9.5
SSW	.6	.9	.8	.7	.4	.7						3.4	9.2
SW	.7	1.1	.9	1.0	.2							3.3	8.2
WSW	.8	.8	.7	.5	.1							2.9	6.6
W	1.1	1.4	1.2	1.0	.4	.1						5.1	6.3
WNW	.6	1.7	1.1	1.4	.2	.7						4.5	6.7
NW	.7	1.6	1.7	1.7	.4							6.2	9.1
NNW	.8	1.8	2.2	1.9	.6	.1	.7					7.5	9.3
VARBL													
CALM												7.1	
	11.2	23.8	19.2	22.4	6.0	1.2	.0					100.0	8.2

TOTAL NUMBER OF OBSERVATIONS 7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JUN
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
1000-0000
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	3.6	2.7	.7	.3							1.2	7.1
NNE	.4	.7	.8	.6	.1							2.5	8.1
NE	.2	.9	.4	.1								1.5	6.3
ENE	.3	.4	.4	.1								1.3	6.3
E	.6	1.4	.7									2.7	4.9
ESE		1.7	.7	.8								3.1	7.6
SE	.7	1.4	1.7	.4	.1							4.3	7.1
SSE	.6	1.9	3.8	1.8								6.1	6.1
S	1.9	3.6	1.8	2.1	.4							7.8	7.4
SSW	1.4	1.8	.6	.8	.2							4.3	6.4
SW	3.3	3.7	2.0	.4								5.4	5.6
WSW	1.3	2.9	1.0	.3								3.6	5.3
W	2.7	4.9	1.7	1.1	.1							1.3	5.6
WNW	1.4	2.6	1.4	.3			.1					5.7	5.6
NW	1.4	2.2	1.4	.6								5.7	6.0
NNW	1.2	2.1	1.7	.8	.7							6.2	6.9
VARBL													
CALM												11.5	
	19.2	34.8	22.9	17.9	1.6		.1					10.0	5.7

TOTAL NUMBER OF OBSERVATIONS 972

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-8 YEARS MONTH JULY 1950-1950
STATION NAME CLASS HOURE (L S Y)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	3.2	3.0	2.0	.2							7.3	6.1
NNE	.1	.0	.8	.3								2.2	7.6
NE	.4	.3	.3									1.1	2.0
ENE	.2	.3	.1									.7	4.7
E	1.0	.6	.4									4.0	4.3
ESE	1.0	.9	.4	.2								2.4	5.2
SE	.7	2.2	1.2	1.2								3.3	7.3
SSE	.8	1.8	2.2	1.2	.1							5.1	6.1
S	1.6	2.9	2.1	2.1	.3							7.2	7.6
SSW	1.3	2.9	1.2	.3	.2							8.2	6.0
SW	1.6	3.3	1.6	.3	.1							5.9	5.7
WSW	1.1	1.9	1.7	.2								4.2	5.3
W	1.7	4.7	3.4	.8								1.0	6.4
WNW	1.4	2.2	2.4	1.0								7.1	7.0
NW	1.3	3.1	1.3	.2	.1							5.1	5.7
NNW	1.3	3.7	1.9	.4	.1							6.8	6.1
VARBL													
CALM												14.3	
	16.4	34.0	23.6	17.4	1.2							12.2	5.7

TOTAL NUMBER OF OBSERVATIONS 520

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JUL 1973-1980
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	1.3	5.4	3.2	.3							11.5	9.2
NNE	.4	.8	1.2	.4								2.3	7.6
NE	.2	.3	.8	.2	.1							1.7	7.8
ENE	.3	.3	.3	.3								1.3	7.4
E		.5	.7	.3								1.3	7.7
ESE	.4	.7	.9	1.1								3.1	6.8
SE	.7	2.1	1.6	.6	.1							5.3	6.6
SSE	.7	1.9	3.2	1.8	.3							7.9	6.6
S	.9	2.3	3.6	2.1	.3							9.2	6.6
SSW	.2	1.1	1.8	.2	.4							3.8	8.4
SW	.8	1.2	1.3	.4	.3	.2						4.5	8.4
WSW	.7	.7	1.8	.6		.1						4.2	7.4
W	2.0	3.0	3.2	1.6	.1							9.9	8.0
WNW	.6	1.2	3.3	1.6	.3	.1						7.1	9.1
NW	.8	2.2	3.0	.8	.3							7.1	7.7
NNW	.9	3.2	3.2	1.7	.1	.1						9.2	7.8
VARBL													
CALM												9.9	
	11.2	23.4	35.3	16.9	2.9	.6						100.0	7.3

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JAN 1973-1982
STATION STATION NAME YEARS MONTHS
ALL WEATHER CLASS HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	~	MEAN WIND SPEED
N	.7	2.1	4.4	4.7	1.1	.2						13.5	1.2
NNE	.8	1.3	2.7	1.7								9.5	8.3
NE	.2	1.3	1.2	.4								9.2	7.2
ENE	.2	.3	1.1	.1								1.8	7.7
E	.8	.3	1.2	.9								3.2	8.2
ESE	.3	1.0	1.1	.7	.1							3.2	8.1
SE	.8	.8	1.1	1.0	.2							3.9	8.5
SSE	.4	1.3	1.4	3.1	.8							7.1	1.7
S	.6	.9	3.3	5.1	1.0	.1						11.0	11.4
SSW	.4	.6	.7	1.3	.7	.1						3.8	11.0
SW	.6	.8	1.8	1.0	.3	.1						4.6	9.4
WSW	.2	.4	1.2	.7	.2	.2						3.7	10.6
W	.3	1.0	2.6	2.3	.8							7.9	9.8
WNW	.4	1.8	1.9	2.3	.2							6.7	9.3
NW	.3	1.4	2.9	2.9	.1	.2						7.9	9.9
NNW	.3	1.2	3.0	3.7	.6	.1						6.9	11.3
VARBL													
CALM												3.9	
	7.7	17.6	31.7	31.9	6.1	1.1						100.0	3.5

TOTAL NUMBER OF OBSERVATIONS 899

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JUN
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
1200-1400
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	1.4	4.9	4.8	1.0	.1						13.2	10.5
NNE	.7	.8	1.3	1.6								4.3	6.5
NE	.3	.9	1.9	.4								3.6	7.6
ENE	.6	.8	1.9									3.2	6.7
E	.4	.7	1.4	.1								2.7	7.0
ESE	.3	1.0	.9	.1								2.3	6.0
SE	.2	.9	2.4	1.1	.3							5.3	9.4
SSE	.4	1.9	1.7	3.3	1.7							9.2	11.4
S	.2	.8	1.9	4.3	2.1	.7	.1					9.8	13.8
SSW	.3	.3	.3	1.2	.1	.2						2.3	11.3
SW	.1	.8	.8	1.1	.1	.2						3.1	10.6
WSW	.3	1.4	1.2	1.8	.1							4.9	9.3
W	.8	2.1	2.2	3.2	1.3	.1						9.8	10.7
WNW	.1	.3	2.3	2.3	.7	.3						6.6	11.9
NW	.4	1.3	2.2	3.1	1.3	.1						6.6	11.2
NNW	.6	1.1	3.7	2.7	.7							8.7	10.2
VARBL													
CALM												2.7	
	6.9	17.1	31.1	30.9	9.5	1.8	.1					100.0	10.2

TOTAL NUMBER OF OBSERVATIONS 899

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORKS AFB ND 73-82 15N 15.2-17.2

STATION

STATION NAME

YEARS

DIRECTION

ALL WEATHER

CLASS

HOURLS (L & T)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	1.7	5.4	5.4	.9	.3						14.6	10.6
NNE	.6	.8	2.2	1.8		.1						5.4	9.3
NE	.3	.8	1.7	.6								3.3	7.8
ENE	1.1	1.7	1.3	.6								4.7	6.7
E	.3	.4	.8									1.5	6.5
ESE	.3	.9	.8	.4								2.4	7.4
SE	.4	1.1	1.2	1.2	.1							4.1	3.7
SSE	.4	.8	1.8	3.8	1.8	.4						9.2	12.7
S	.6	.4	1.4	4.4	2.1	.7						9.7	13.7
SSW	.3	.8	1.0	1.1	.3	.3						3.9	12.9
SW	.3	.7	1.3	1.1	.3	.1						3.9	10.3
WSW	.6	.7	1.1	1.2	.4	.1						4.1	10.2
W	.6	1.4	2.2	2.1	.4	.2						7.2	10.1
WNW	.4	.4	1.7	2.3	.9							5.7	11.4
NW	.1	1.1	3.4	2.6	1.7	.7						8.4	11.2
NNW	.3	1.4	3.9	3.2	.8	.1						9.8	12.4
VARBL													
CALM												3.1	
	7.6	14.4	31.3	31.9	9.7	2.7						100.0	10.2

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JUN
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
1600-2000
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	2.2	5.6	3.8	.6	.1						12.3	9.8
NNE	.8	2.4	3.7	1.3	.4							6.3	6.1
NE	.3	1.3	1.1	.4		.1						3.3	7.5
ENE	.9	1.4	.8	.1								3.2	5.2
E	1.3	1.7	1.2	.3								4.3	5.9
ESE	.9	1.1	1.7	.3								3.3	6.3
SE	.4	1.4	4.1	.9	.1							7.7	8.2
SSE	1.7	.9	2.1	3.1	.3	.1						7.6	11.2
S	.6	2.3	2.2	3.4	.9	.2						9.7	10.4
SSW	.6	.9	.9	.6								2.9	7.3
SW	.4	1.2	.7	.4	.3	.1						3.2	8.9
WSW	.6	1.1	1.1	.2								3.2	6.1
W	.7	2.0	2.1	.9	.3	.1						6.1	8.1
WNW	.3	1.3	1.7	1.3	.3	.1						5.6	8.8
NW	.3	1.2	1.7	1.7	.2							4.4	8.6
NNW	1.1	2.7	1.2	3.0	.0		.2					8.7	10.2
VARBL													
CALM												6.2	
	11.4	25.1	30.4	21.2	4.4	.9	.2					100.3	8.1

TOTAL NUMBER OF OBSERVATIONS 570

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS JULY MONTH
ALL WEATHER CLASS 2100-2300 HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.9	3.6	4.1	1.1	.2	.1						11.2	7.1
NNE	1.0	1.4	2.1	.7								5.2	6.9
NE	.3	.7	1.0	.1								2.1	6.6
ENE	.3	1.3	.1									1.8	4.4
E	1.4	1.8	.7	.1								4.2	4.7
ESE	.6	1.6	1.0	.2	.1							3.4	6.5
SE	1.0	2.3	2.6	1.0								6.9	7.1
SSE	.7	2.3	2.7	.6	.2							6.4	7.5
S	1.4	3.4	2.9	1.8	.2							9.8	7.4
SSW	1.6	3.6	.7	.6	.1							6.4	5.5
SW	1.1	2.2	1.1	.4								4.9	6.0
WSW	.8	2.1	.8	.4								4.1	6.0
W	1.3	4.1	.8	.3	.1							6.7	5.5
WNW	1.0	1.4	1.0	.3	.4							4.2	7.2
NW	.9	1.1	1.1	.1	.2	.2						3.7	7.5
NNW	.9	2.1	1.6	1.4	.2							6.2	7.8
VARBL													
CALM												13.1	
	16.2	35.1	24.1	9.2	1.9	.3						100.2	5.8

TOTAL NUMBER OF OBSERVATIONS 922

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/HAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORMS AFB ND 73-82 JUN
STATION MONTH
ALL WEATHER ALL
CLASS HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.4	4.4	3.2	.6	.1						11.5	9.3
NNE	.5	1.1	1.8	1.0	.1	.0						4.6	8.1
NE	.3	.8	1.1	.3	.0	.0						2.5	7.2
ENE	.5	.8	.6	.2								2.2	6.2
E	.7	1.0	.9	.2								2.3	6.1
ESE	.5	1.1	.8	.5	.0							2.7	7.7
SE	.5	1.5	2.0	.9	.1							5.2	7.8
SSE	.6	1.6	2.4	2.3	.7	.1						7.6	9.8
S	1.0	2.1	2.4	3.1	.9	.2	.1					9.7	10.1
SSW	.8	1.5	.9	.8	.3	.1						4.3	7.8
SW	1.0	1.7	1.3	.7	.2	.1						4.9	7.5
WSW	.8	1.4	1.2	.7	.1	.1						4.2	7.4
W	1.3	3.7	2.3	1.5	.4	.1						8.5	7.8
WNW	.8	1.5	2.0	1.4	.3	.1	.0					6.1	8.9
NW	.7	1.7	2.1	1.4	.4	.1						5.5	8.8
NNW	.8	2.1	2.5	2.1	.4	.0	.7					6.1	9.0
VARBL													
CALM												8.1	
	11.9	25.2	28.8	27.4	4.6	.9	.1					100.0	7.8

TOTAL NUMBER OF OBSERVATIONS 7198

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS JUL NORTH
ALL WEATHER CLASS 000-0000 HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.4	2.5	1.4	.8	.2							2.2	4.6
NNE	.5	.5	.3									1.2	4.7
NE	.4	.4	.2									.1	4.2
ENE	.6	.5	.1	.1								.4	4.2
E	1.2	1.2	.5	.2								3.1	5.2
ESE	.4	1.3	.2	.1	.1	.1						2.3	6.7
SE	.8	2.3	1.3	.6	.1							3.1	6.6
SSE	1.5	2.9	2.5	.4	.1							7.4	6.2
S	1.7	3.8	4.4	1.5	.1							11.5	7.2
SSW	1.7	2.9	.6	.2								5.5	4.7
SW	1.8	3.4	.4	.2								5.9	4.6
WSW	3.3	1.9	.2									5.5	3.2
W	3.1	4.1	1.3	.1								8.6	4.5
WNW	2.2	2.2	.4	.6								5.4	5.1
NW	1.9	3.7	1.1	1.1	.1	.1						7.3	6.3
NNW	1.8	1.9	1.4	.3	.1							5.6	5.4
VARBL													
CALM												16.7	
	24.5	34.9	16.5	6.3	.9	.2						100.0	4.6

TOTAL NUMBER OF OBSERVATIONS 93

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS JUL MONTH 320-3500 HOURS (LST) ALL WEATHER CLASS CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	2.7	1.8	1.1								6.2	6.8
NNE	.2	.9	.2	.3								1.5	6.7
NE	.1	.5	.1									.3	4.9
ENE	.3	.9	.4									1.6	5.1
E	.5	.6		.1	.2							1.5	6.3
ESE	.8	1.3	.4	.2								2.7	5.5
SE	.4	2.3	.9	.4								4.1	6.1
SSE	2.4	2.5	2.6	.9								3.3	6.1
S	1.7	4.6	4.2	1.3	.1							11.2	6.7
SSW	1.4	2.5	.8									4.6	4.6
SW	3.3	2.2	.6	.1								6.2	3.9
WSW	2.4	2.7	.8									5.9	4.1
W	3.4	4.3	1.2									8.6	4.2
WNW	2.6	2.9	1.6	.2	.1							7.4	5.1
NW	1.6	3.1	1.1	.4	.3							6.6	6.1
NNW	1.4	3.2	1.3	.1								6.1	5.2
VARBL													
CALM												15.0	
	23.9	36.2	18.0	5.2	.8							100.0	4.6

TOTAL NUMBER OF OBSERVATIONS 430

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 77-62 YEARS JUL 1952-1970
STATION NAME CLASS MONTHS (L S Y)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	4.0	3.0	2.2								1.23	7.5
NNE	.4	1.0	1.0	.1								1.2	6.4
NE	.1	1.0	.2									1.3	5.5
ENE	.3	.6	.1									1.1	4.9
E	.4	.5	.5									1.5	5.3
ESE	.2	.6	1.1	.3		.1						2.4	6.3
SE	.5	2.0	1.4	.6								4.0	6.6
SSE	1.0	2.2	3.8	1.4	.2							5.5	6.1
S	1.8	3.9	4.3	2.3	.1							12.9	7.4
SSW	1.0	2.4	1.0	.3								4.5	6.6
SW	3.3	2.3	.6	.2								5.4	4.4
WSW	1.4	1.8	.4	.2								3.9	4.7
W	3.3	3.1	2.2	.4	.1	.1						9.2	6.5
WNW	1.3	2.3	2.4	.3								5.2	6.1
NW	1.2	1.4	2.2	1.2								5.9	7.6
NNW	2.3	3.3	2.9	.9								9.4	6.1
VARBL													
CALM												1.9	
	13.7	32.4	27.2	10.4	.4	.2						100.0	5.8

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORKS AFB ND 73-82 JUL
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
242-1400
HOURS (L & Y)

SPEED (KNTS) DIR	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.5	4.2	2.8	.3							8.4	8.7
NNE	1.4	1.9	2.7	.6								8.5	8.6
NE	1.4	1.5	1.0									8.7	8.1
ENE	.2	.9	.5	.2								1.7	8.4
E	.5	1.7	.9	.1								2.0	8.2
ESE	.3	.9	1.2	.1								2.0	8.7
SE	.5	1.0	2.5	1.3	.4							5.7	9.1
SSE	.5	2.0	2.7	2.7	1.7							8.9	10.1
S	1.1	2.8	2.8	4.0	.9							11.5	9.6
SSW	.4	1.0	2.5	1.0	.2	.1						5.2	8.9
SW	.2	1.0	1.6	.8	.2							3.5	8.5
WSW	.4	1.7	1.5	.5	.1							4.3	7.3
W	.3	1.5	2.6	1.5	.3							6.3	8.5
WNW	.5	1.6	2.0	1.9	.1							6.2	8.8
NW	1.0	1.4	2.8	1.8	.4							7.4	8.8
NNW	.6	2.7	2.7	1.7	.1							7.8	8.0
VARBL													
CALM												4.4	
	11.0	25.3	34.1	21.1	4.1	.1						100.0	8.0

TOTAL NUMBER OF OBSERVATIONS 970

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS 1973-1982
STATION NAME CLASS MONTHS 11 5 1

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.7	5.4	4.3								15.3	6.9
NNE	.6	1.3	1.7	.3								4.0	7.2
NE	.4	1.2	1.2	.1								3.9	6.2
ENE	.3	1.3	.5	.1								2.3	5.5
E	.3	1.1	1.1	.3								2.3	6.7
ESE	.3	.9	1.4	.5								3.2	6.1
SE	.9	1.5	1.3	1.7	.4	.1						5.9	9.3
SSE	.3	1.5	2.9	2.9	1.7							7.4	11.5
S	1.0	1.6	2.8	3.8	1.6							15.8	15.5
SSW	.4	1.2	1.7	2.3	.1							3.7	9.5
SW	.4	.6	1.9	1.7	.1							4.1	6.3
WSW	.5	.6	1.2	.5	.1							3.0	7.9
W	1.1	1.5	1.2	2.5	1.1	.1						7.4	15.2
WNW	.4	1.6	1.5	3.3	.6	.1						7.6	15.7
NW	.3	1.7	2.0	1.4	.8	.1						6.0	9.2
NNW	.5	1.9	3.3	1.7								7.5	6.6
VARBL													
CALM												2.3	
	9.4	22.8	31.2	26.9	6.6	.4						121.1	9.7

TOTAL NUMBER OF OBSERVATIONS 972

AD A131 893

GRAND FORKS AFB NORTH DAKOTA REVISED UNIFORM SUMMARY OF

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SURFACE WEATHER O..(U) AIR FORCE ENVIRONMENTAL

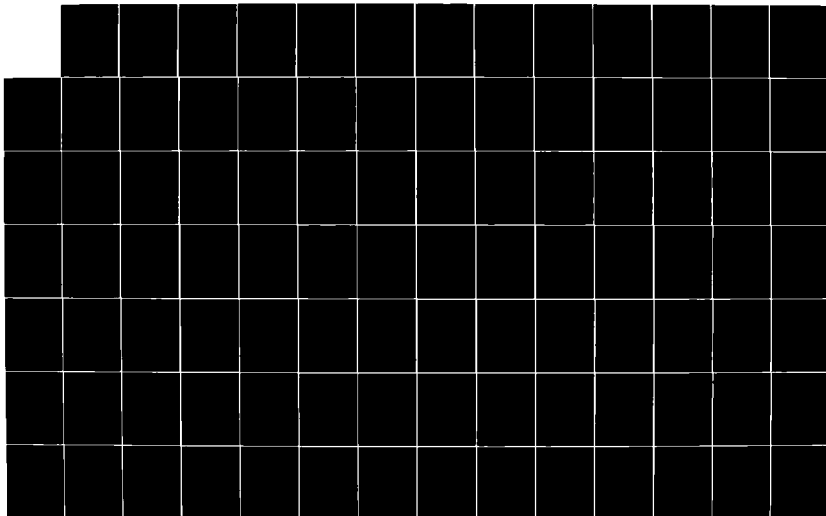
TECHNICAL APPLICATIONS CENTER SCOTT A.. APR 83

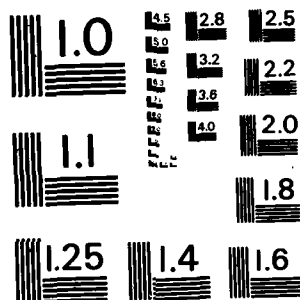
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORMS AFB ND 73-82 JUL
STATION STATION NAME YEARS MONTH
ALL WEATHER 1500-1700
CLASS HOUR (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	3.7	5.2	3.1	.5							13.5	8.6
NNE	.2	1.3	1.7	.5	.1							3.9	8.2
NE	.3	.9	2.0	.1								3.3	7.5
ENE	.3	1.2	.4									1.9	5.3
E	.3	1.0	1.4	.1								2.8	6.3
ESE	.8	1.5	2.0	.5								4.8	6.9
SE	.6	1.1	1.7	1.7								5.2	8.7
SSE	.6	1.0	2.5	2.8	1.7	.3						8.9	11.8
S	.2	2.3	4.2	4.0	1.2	.3						12.2	11.0
SSW	.4	1.5	1.8	.6	.1							4.5	7.7
SW	.5	.8	.6	.4	.1							2.5	7.7
WSW	.8	.3	.5	.4	.3							2.4	6.6
W	.8	1.2	1.3	1.7	1.0	.2						6.1	10.6
WNW	.3	.9	2.4	2.6	.9							7.0	11.2
NW	.8	1.4	3.2	2.3	.8							8.4	9.9
NNW	.5	2.4	2.9	3.1	.1							9.0	9.2
VARBL													
CALM												3.5	
	8.6	22.2	34.0	24.1	6.8	.9						100.0	9.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION 73-82 YEARS JUL 1870-2000 MONTH (L.S.T.)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.9	4.1	5.5	2.4	.4							14.3	7.7
NNE	1.1	1.5	2.5	.8								5.8	7.2
NE	.8	1.9	1.1	.1								3.9	5.5
ENE	1.0	1.5	.6	.1								3.2	4.9
E	.9	2.0	.3	.4								3.7	5.4
ESE	.4	2.5	2.2	.5								5.6	6.8
SE	.5	1.7	1.8	1.3	.3							5.7	8.5
SSE	1.2	1.5	5.3	1.6	.6							10.2	8.8
S	1.0	1.8	4.4	1.9	.4							9.6	8.8
SSW	.5	1.1	1.0									2.6	5.5
SW	.6	1.1	.4									2.2	4.6
WSW	.5	.5	.3	.2	.1							1.7	6.6
W	1.5	2.0	1.1	1.1	.4	.2						6.3	7.8
WNW	.8	1.2	1.8	1.4								5.2	8.2
NW	.6	1.3	1.4	.9	.1							4.3	7.7
NNW	1.5	3.7	2.0	1.4	.5							9.1	7.2
VARBL													
CALM												6.7	
	14.8	29.5	31.7	14.1	3.0	.2						120.0	6.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 JUL
STATION STATION NAME YEARS MONTH
ALL WEATHER 2100-2300
CLASS HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	2.6	4.7	1.9	.8	.3							12.3	5.8
NNE	1.1	1.2	.9									3.1	5.0
NE	.2	1.3	.4	.1								2.0	5.7
ENE	1.0	1.8	.2									3.0	4.0
E	.5	2.0	1.0	.2								3.8	5.5
ESE	.8	2.2	1.1	.1	.2							4.3	6.2
SE	.8	2.8	1.5	1.1								6.1	6.7
SSE	2.0	2.8	2.9	1.4								9.1	6.9
S	2.3	4.0	2.5	1.5	.1							10.3	6.5
SSW	1.3	2.0	.8	.1								4.2	4.9
SW	1.2	1.3	.6	.2								3.3	5.2
WSW	1.6	1.6	.4		.1							3.8	4.2
W	3.2	3.0	.6	.2	.1	.1						7.3	4.6
WNW	2.3	1.3	.8	.4	.1							4.8	5.1
NW	1.5	1.7	.9	.4	.1							4.6	5.6
NNW	2.2	2.2	1.2	.3	.2							6.0	5.7
VARBL													
CALM												13.8	
	24.4	35.9	17.6	6.9	1.3	.1						100.0	4.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

JUL
MONTH

ALL WEATHER
CLASS

ALL
HOWER (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.4	3.3	3.5	2.2	.2							11.5	7.7
NNE	.7	1.2	1.4	.3	.0							3.6	6.7
NE	.5	1.1	.8	.1								2.4	5.8
ENE	.5	1.1	.4	.1								2.1	5.0
E	.6	1.2	.7	.2	.0							2.7	5.8
ESE	.5	1.4	1.2	.3	.0	.0						3.5	6.9
SE	.6	1.8	1.5	1.1	.2	.0						5.3	7.8
SSE	1.2	2.0	3.1	1.8	.7	.0						8.8	8.8
S	1.3	3.1	3.7	2.5	.6	.0						11.3	8.5
SSW	.9	1.8	1.3	.6	.1	.0						4.6	6.6
SW	1.3	1.6	.9	.4	.1							4.2	5.6
WSW	1.4	1.4	.7	.2	.1							3.8	5.3
W	2.2	2.6	1.4	.9	.4	.1						7.6	6.7
WNW	1.3	1.7	1.6	1.4	.2	.0						6.2	7.7
NW	1.2	1.9	1.8	1.2	.3	.0						6.4	7.8
NNW	1.4	2.7	2.2	1.2	.1							7.6	7.1
VARBL													
CALM												9.3	
	16.9	29.9	26.2	14.8	3.0	.3						100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 7480

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

AUG
MONTH

ALL WEATHER
CLASS

0000-0230
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	2.6	2.8	1.9	1.2								8.5	5.9
NNE	.3	.6	.2	.1								1.3	5.7
NE	.2	1.2	.2									1.6	4.9
ENE	1.0	.5	.1	.3								1.9	5.1
E	1.4	1.1	.9	.1								3.4	4.7
ESE	.4	1.8	.8	.1								3.1	5.8
SE	1.4	2.9	1.2	.3	.1							5.9	5.8
SSE	1.0	2.2	2.7	1.6								7.4	8.0
S	2.2	3.0	2.8	2.5								10.4	7.3
SSW	1.9	3.5	.5	.9	.1							7.0	5.6
SW	2.0	1.3	.6									4.0	4.0
WSW	.9	1.3	.1	.1								2.4	4.4
W	2.3	4.1	1.2	.8								8.3	5.3
WNW	2.3	3.3	.8	.4			.1					6.9	5.1
NW	1.9	3.1	1.2	.4	.2	.1						7.0	5.8
NNW	2.4	2.6	1.8	.6								7.4	5.5
VARBL													
CALM												13.4	
	24.1	35.4	17.0	9.5	.4	.1	.1					100.0	5.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 AUG
STATION STATION NAME YEARS MONTH
ALL WEATHER 0300-2500
CLASS HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 14	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.4	2.7	2.3	.6								7.3	6.2
NNE	.8	.6	.3									1.7	4.6
NE	.5	.3	.2									1.1	4.5
ENE	.4	.8	.3	.2								1.7	5.6
E	1.3	1.4	.8	.1								3.5	4.8
ESE	.6	1.3	.9	.2								3.0	5.7
SE	.9	2.0	1.4	.2								4.5	5.9
SSE	1.8	3.0	2.9	.2	.2	.1						8.3	6.4
S	1.3	3.3	2.9	1.1								8.6	6.5
SSW	1.4	1.5	1.0	.4								4.3	5.7
SW	1.3	2.3	1.3		.1							4.9	5.4
WSW	1.9	1.4	.3	.4	.1							4.2	5.1
W	2.8	4.6	1.5	.9	.2	.1						10.1	5.9
WNW	1.8	3.0	1.5	.8	.1	.2						7.4	6.3
NW	2.6	3.1	1.1	.4								7.2	4.7
NNW	2.3	3.4	1.3	.6								7.6	5.4
VARBL													
CALM												14.7	
	23.1	34.8	19.9	6.2	.8	.4						100.0	4.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORMS AFB MD
STATION NAME

73-82
YEARS

4UG
MONTH

ALL WEATHER
CLASS

0600-1800
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.9	4.5	3.3	1.3								11.1	6.5
NNE	.8	1.0	.3	.1	.1							2.3	5.3
NE	.5	.5	.2									1.3	3.9
ENE	.8	1.0	.3									2.0	4.5
E	1.0	1.4	.4	.2								3.0	5.2
ESE	.5	1.1	1.4	.2								3.2	6.4
SE	.8	2.3	1.8	.4	.1							5.4	6.8
SSE	1.2	2.0	3.1	1.6		.1						8.1	7.7
S	1.5	2.5	4.0	2.3	.1	.2						10.5	8.1
SSW	.8	1.0	1.4	.3								3.4	6.6
SW	1.1	1.2	.5	.1								2.9	4.9
WSW	1.8	1.0	1.3	.8	.1							4.9	6.7
W	2.6	2.7	2.4	1.1	.1							8.8	6.5
WNW	2.4	2.0	2.8	.5	.1							7.8	6.1
NW	1.3	2.2	1.5	.9	.1							5.9	6.9
NNW	1.8	3.3	2.2	.8								8.1	5.9
VARBL													
CALM												11.2	
	20.6	29.6	27.0	10.5	.8	.3						120.0	5.8

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS AUG MONTH
ALL WEATHER CLASS 3900-1100 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.9	3.0	4.5	2.3								11.7	7.7
NNE	.9	1.8	1.5	.4								4.6	6.3
NE	1.2	1.0	.6	.3								3.1	5.4
ENE	.8	1.0	.2	.1								2.0	4.5
E	.6	2.5	1.1	.2								4.4	6.0
ESE	.5	1.7	1.1	1.2								4.5	7.7
SE	1.2	1.4	1.3	1.5								5.4	7.5
SSE	1.1	.9	2.8	3.9	.6							9.2	12.4
S	.4	.6	2.9	3.9	.8	.2						8.8	11.6
SSW	.4	.8	1.5	1.2	.1							4.0	8.6
SW	.9	.8	1.3	.5	.1							3.5	7.2
WSW	.2	1.1	1.1	.3								2.7	6.9
W	.9	2.4	2.2	1.8	1.3	.1						8.6	9.7
WNW	.4	1.2	1.4	1.5	.6							5.2	9.9
NW	1.4	2.4	2.2	1.7	.2							7.8	7.7
NNW	1.4	1.9	3.2	1.8	.5							8.9	8.2
VARBL													
CALM												5.4	
	14.2	24.3	28.8	22.7	4.3	.3						100.0	7.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 727575 STATION NAME GRAND FORKS AFB ND YEARS 73-82 MONTH AUG
DATE 1229-1477 HOURS (L.S.T.)
CLASS ALL WEATHER
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.7	2.7	4.2	4.3		.1						13.0	8.8
NNE	.9	1.3	1.9	.5	.1							4.7	6.9
NE	.6	1.5	.5	.1								2.8	5.0
ENE	.8	1.1	1.2									3.0	5.5
E	1.4	1.9	2.0	.6								6.0	6.2
ESE	.3	1.3	1.9	1.3								4.8	8.6
SE	.4	.8	1.5	2.5	.4							5.6	10.3
SSE	.3	.9	1.5	2.9	1.4	.3						7.3	12.3
S	.3	1.5	1.8	3.7	.9	.2						8.4	11.4
SSW	.2	.6	.6	2.2	.5							4.2	11.5
SW	.5	.2	1.2	.5	.1							2.6	8.5
WSW	.6	.9	1.8	.8								4.1	7.7
W	1.4	1.6	1.7	2.0	.5	.4						7.7	9.5
WNW	.5	1.1	2.2	1.6	.9	.4						6.7	11.0
NW	.6	2.2	2.0	2.5	.2	.2						7.7	9.3
NNW	.8	1.6	2.6	1.9	.5							7.4	9.2
VARBL													
CALM												3.9	
	11.5	21.1	28.8	27.4	5.6	1.7						100.0	6.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS AUG MONTH
1500-1700 HOURS (L.S.T.)

ALL WEATHER CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.4	3.0	6.6	2.8	.2	.1						14.1	8.5
NNE	1.0	1.3	1.7	1.1								5.1	7.5
NE	.6	1.4	.5	.3								2.9	5.6
ENE	.5	.9	.6	.2								2.3	5.8
E	.4	2.0	1.7	1.0								5.2	7.3
ESE	.3	1.4	2.4	1.3	.1							5.5	8.8
SE	.1	1.5	1.5	2.5	.6	.1						6.3	10.8
SSE	.3	.9	1.6	2.3	1.5	.2						6.8	12.4
S	.6	1.7	1.9	4.4	1.4	.2						10.3	11.4
SSW	.2	.9	.9	1.2	.3	.1						3.5	10.2
SW	.2	.2	.6	.8								1.8	9.4
WSW	.2	.9	1.7	.8								3.5	8.3
W	.6	2.0	1.7	1.5	.5	.2						6.7	9.4
WNW	.4	1.2	2.2	1.1	.4	.1						5.4	9.5
NW	.9	1.9	2.3	1.8	.5							7.4	8.9
NNW	.8	2.5	3.2	2.4	1.3	.1						10.2	9.8
VARBL													
CALM												3.0	
	8.7	23.7	31.2	25.3	7.0	1.2						100.0	9.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORTS AFB ND
STATION NAME

73-82

AUG
MONTH

ALL WEATHER
CLASS

1800-2000
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.7	5.1	4.0	2.7	.2							13.7	7.6
NNE	1.2	2.3	2.7	.4	.1							6.7	6.7
NE	1.6	1.3	.5	.4								3.9	5.0
ENE	1.4	2.0	.4	.1								4.3	4.4
E	1.3	2.9	2.2	.2								6.6	5.4
ESE	.5	1.9	2.5	.9	.1							5.9	7.6
SE	.6	1.4	1.5	3.2	.5							7.3	10.0
SSE	.9	1.7	2.5	3.1	.6	.1						8.9	9.8
S	.8	1.9	1.9	1.8	.5							7.0	8.8
SSW	.4	.6	.6	.4	.1							2.3	8.0
SW	.8	.5	.5	.1								1.9	5.4
WSW	1.0	1.4	.1	.1								2.6	4.6
W	1.8	1.6	1.3	1.2	.1							6.0	6.6
WNW	1.0	1.6	1.2	.6								4.4	6.4
NW	.5	1.8	1.1	1.0	.1							4.5	7.5
NNW	1.2	1.9	2.2	1.1	.1							6.5	7.5
VARBL													
CALM												8.0	
	16.7	30.1	25.2	17.4	2.6	.1						100.0	6.8

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-62 YEARS ALL WEATHER CLASS 100-2370 HOURS (L.S.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	2.5	3.0	1.3	1.2								8.2	2.5
NNE	.9	2.3	.8	.3								4.2	5.9
NE	1.7	1.0	.1									2.8	3.4
ENE	1.2	1.4		.1								2.7	4.1
E	1.4	2.5	1.1	.3								5.3	5.2
ESE	.4	2.5	1.9	.3								5.2	6.6
SE	.5	2.5	2.4	1.5	.5							7.4	8.6
SSE	.8	1.4	2.7	2.6	.3							7.7	9.3
S	2.0	2.4	2.8	1.6	.1							9.9	7.3
SSW	.9	1.7	.5	.1		.1						3.3	5.5
SW	1.7	1.7	.4									3.9	4.0
WSW	1.3	1.7	.2	.1								3.3	4.1
W	2.2	3.3	.8	.4								6.7	5.0
WNW	1.1	1.7	1.2	.2								4.2	5.5
NW	1.1	1.8	1.3	.4	.2							4.8	6.6
NNW	2.0	1.4	1.7	.5	.2							5.9	6.3
VARBL													
CALM												14.3	
	21.6	33.1	19.1	9.8	1.4	.1						100.0	5.3

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS
ALL WEATHER CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.9	3.5	3.5	2.0	.1	.0						11.0	7.3
NNE	.8	1.4	1.2	.4	.0							3.8	6.4
NE	.9	1.0	.4	.1								2.4	4.8
ENE	.8	1.1	.4	.1								2.5	4.9
E	1.1	2.0	1.3	.3								4.7	5.7
ESE	.5	1.6	1.6	.7	.0							4.4	7.3
SE	.7	1.8	1.6	1.5	.3	.0						6.0	8.4
SSE	.9	1.6	2.5	2.3	.6	.1						8.0	9.5
S	1.1	2.1	2.6	2.6	.5	.1						9.1	9.0
SSW	.8	1.3	.9	.8	.1	.0						4.0	7.5
SW	1.1	1.0	.8	.3	.0							3.2	5.9
WSW	1.0	1.2	.8	.4	.0							3.5	6.1
W	1.8	2.8	1.6	1.2	.3	.1						7.9	7.2
WNW	1.2	1.9	1.6	.8	.3	.1	.0					6.0	7.4
NW	1.3	2.3	1.6	1.1	.2	.0						6.6	7.2
NNW	1.6	2.3	2.3	1.2	.3	.0						7.8	7.4
VARBL													
CALM												9.3	
	17.6	29.0	24.6	16.1	2.8	.5	.0					100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS SLP 0000-0200
STATION NAME CLASS HOURS (LST)
ALL WEATHER
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.6	3.4	2.8	.4							10.2	8.9
NNE	.4	.7	.8	.3								2.2	6.9
NE	.1	.4	.3									.9	6.2
ENE	.9	.6	.8	.1	.1							2.4	6.1
E	.9	.7	.3	.2	.3							2.4	7.3
ESE	.6	1.7	.7	.3								2.6	6.5
SE	.3	2.3	1.3	.4								4.4	7.0
SSE	.8	1.8	2.3	1.1								6.0	7.5
S	1.4	5.0	2.4	1.9								10.3	7.0
SSW	1.2	3.0	2.4	.6								7.2	6.5
SW	1.3	3.7	1.3	.1								6.4	5.0
WSW	1.6	2.3	1.0	.2	.7							5.3	5.5
W	2.9	4.4	1.9	.1								9.3	4.9
WNW	1.1	2.3	1.3	.7	.3	.3						6.1	7.9
NW	1.9	3.7	.9	.2	.1	.3						6.4	6.3
NNW	2.0	1.8	2.1	.8	.1							6.3	6.6
VARBL													
CALM												10.3	
	18.4	35.6	23.4	9.9	1.7	.7						100.0	6.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS SEP 3000-3500 HOURS (L.S.T.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	2.3	4.1	2.9	.2							13.8	8.4
NNE	.4	.9	.8	.3								2.4	6.6
NE	.3	.8	.3									1.4	4.8
ENE	.3	.3	.2	.2								1.1	5.8
E	.9	1.0	.7	.1	.2							2.9	6.7
ESE	.6	1.1	.3	.6								2.6	6.2
SE	.7	1.4	1.0	.3								3.4	6.3
SSE	.8	2.8	2.0	.8								6.3	6.8
S	1.2	3.9	4.1	1.1	.3							10.7	7.3
SSW	1.3	2.9	1.6	.2	.1							6.1	5.9
SW	1.3	3.6	1.9	.8								7.6	5.9
WSW	1.4	2.0	.3	.4	.1							4.3	5.6
W	2.1	4.8	2.3	.3								9.6	5.3
WNW	1.9	1.9	2.0	.7	.2	.1						6.8	6.7
NW	1.2	2.1	1.7	.9		.2	.1					6.2	7.5
NNW	1.0	3.0	1.7	1.4	.1		.1					7.3	7.3
VARBL													
CALM												10.4	
	16.8	34.8	25.0	11.1	1.3	.3	.2					100.0	6.0

TOTAL NUMBER OF OBSERVATIONS 970

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIP WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND STATION NAME 73-82 YEARS SEP MONTH 0600-1800 HOURS (L.S.T.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	3.7	3.9	3.4	.4							12.0	9.0
NNE	.2	.7	1.0	.4	.1							2.4	8.1
NE		.3	.4									.8	7.3
ENE	.2	.9	.6		.1							1.8	6.3
E	.2	.9	1.0	.2	.1							2.4	7.7
ESE	.6	1.1	.8	.4								2.9	7.0
SE	.7	2.0	1.1	.8								4.6	6.8
SSE	1.2	1.8	1.9	1.9	.1							6.9	7.8
S	.8	3.6	4.8	1.8	.1							11.0	7.9
SSW	.3	1.4	1.0	.4								3.2	7.2
SW	1.2	2.9	.8	.1								5.0	4.9
WSW	1.2	2.7	1.2	.7	.1							5.9	6.3
W	2.3	3.9	2.3	1.0	.1	.1						9.8	6.1
WNW	1.4	2.3	2.1	1.2		.2						7.3	7.3
NW	.6	3.1	1.8	1.0	.2	.4						7.1	8.3
NNW	1.6	2.0	2.4	1.1								7.1	6.9
VARB													
CALM												9.8	
	13.1	33.2	27.1	14.6	1.8	.8						100.0	6.6

TOTAL NUMBER OF OBSERVATIONS 970

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS SEP MONTHS 1970-1970
STATION NAME CLASS HOUSE (L.S.T.)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	2.7	6.0	4.9	1.2	.4						15.9	12.4
NNE	.4	.8	1.0	1.2	.1							3.6	8.6
NE	.7	.6	.8	.1								2.1	5.6
ENE		.3	.8	.2								1.3	8.2
E	.4	.4	1.8	.6	.3							3.6	9.0
ESE	.6	1.0	1.3	.2								3.1	6.5
SE	.9	1.4	1.9	.9	.3							5.4	8.3
SSE	.4	2.1	2.9	1.7	1.1							8.2	9.6
S	.8	1.4	3.9	5.1	1.4	.1						12.8	11.1
SSW	.8	.7	1.8	2.6	.1							5.9	9.7
SW	.6	.4	.9	1.2	.3							3.4	9.7
WSW	.3	1.0	1.6	.9								3.8	8.1
W	.3	.9	2.8	2.7	.6	.3						7.6	11.3
WNW	.1	.9	1.8	1.3	.4	.6						5.1	11.5
NW	.7	2.0	2.6	2.2	.9	.2	.1					8.7	10.3
NNW	.7	1.6	2.6	2.0	.1							6.9	8.5
VARBL													
CALM												2.7	
	8.3	18.2	34.2	27.8	7.0	1.7	.1					100.0	9.5

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS SEP MONTH
ALL WEATHER CLASS 1200-1400 HOURS (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.7	2.3	5.4	5.0	1.0	.1						14.6	10.3
NNE	.1	.7	1.7	1.0	.3							3.8	9.9
NE	.2	.7	.7	.2								1.8	7.0
ENE	.1	.1	.8	.7								1.7	10.2
E	.3	1.1	2.1	1.2	.1							4.9	8.5
ESE	.3	.4	1.7									2.4	7.5
SE	.2	.7	1.3	1.0	.3							3.6	9.9
SSE	.7	1.2	3.6	1.7	1.7	.3						9.1	10.9
S	.7	1.4	3.4	4.4	1.2	.8						12.0	11.9
SSW	.4	.3	1.3	1.8	.2	.3	.1					4.6	12.6
SW	.2	.1	1.8	1.1	.1		.2					3.6	11.3
WSW	.2	1.1	2.1	1.3	.3							5.1	9.5
W	.6	1.2	3.2	2.6	.8	.3						8.7	10.7
WNW	.2	.4	1.6	1.7	1.0	.6						5.4	13.2
NW	.2	.4	3.2	1.9	.8	.3	.2					7.1	11.9
NNW	.2	1.6	3.2	3.3	.7	.1	.1					9.2	10.9
VARBL													
CALM												2.6	
	5.4	13.9	37.1	28.9	8.6	2.9	.7					100.0	10.5

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS SEP MONTHS 1500-1700 HOURS (L.S.T.)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	3.3	6.0	3.8	2.0							15.7	10.3
NNE	.2	1.0	2.1	1.2	.1							4.7	9.2
NE		1.0	.9	.4				.1				2.4	9.5
ENE	.4	.9	.8	.2			.1					2.4	8.2
E	.4	.8	1.7	1.1								4.0	8.5
ESE	.2	.3	1.2	.4								2.2	8.5
SE		.4	1.1	1.0	.2							2.8	10.5
SSE	.9	1.6	3.1	2.9	.4	.1						9.0	9.9
S	.8	1.7	2.7	4.2	1.7	.6	.1					11.7	11.8
SSW	.6	.4	.6	1.3	.1							3.0	9.2
SW	.2	.7	2.1	.8	.4							4.2	9.9
WSW	.3	1.3	2.4	1.0		.3						5.4	9.2
W	.2	1.9	2.0	2.3	.8	.1						7.3	10.7
WNW	.3	.9	2.2	1.3	.7	.3						5.8	11.0
NW	.3	1.0	2.7	2.3	1.1	.3	.3					8.1	12.1
NNW	.3	1.1	3.9	2.4	1.1	.2						9.1	11.0
VARBL													
CALM												2.1	
	5.9	18.3	35.4	26.9	8.7	2.0	.6	.1				170.0	10.1

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORMS AFB ND STATION NAME 73-82 YEARS SEP MONTHS 1820-2020 HOURS (L.S.T.)

ALL WEATHER

CLAS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	3.9	4.1	4.0	.3	.2						13.9	8.9
NNE	1.0	2.7	2.1	.9								6.7	6.8
NE	.6	1.2	.7	.3								2.8	6.5
ENE	.7	1.0	1.2	.2		.1	.2					3.4	8.5
E	.3	2.1	.9	.3	.1							3.8	6.9
ESE	.4	1.8	.9	.4								3.6	6.4
SE	.6	3.2	2.6	.4								6.8	6.8
SSE	1.0	2.9	2.3	2.2	.2							8.7	8.1
S	.9	4.0	2.9	1.6	.1							9.4	7.2
SSW	.9	1.9	.7	.6								4.0	6.1
SW	1.3	1.1	.3									2.8	4.1
WSW	.6	2.0	.3									2.9	4.6
W	1.3	3.2	1.9	.8	.3	.1						7.7	7.1
WNW	.7	1.2	.9	.7	.3	.4						4.2	9.3
NW	.9	1.9	1.7	1.1	.3	.6						6.4	9.6
NNW	.7	1.4	2.1	2.4	.1							6.8	8.9
VARBL													
CALM												6.2	
	13.1	35.6	25.6	16.0	1.9	1.4	.2					170.0	7.1

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

SEP
MONTH

ALL WEATHER
CLASS

2100-2300
HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	3.7	3.3	3.1	.4	.3						11.9	9.1
NNE	.8	.9	1.3	.8		.1						3.9	7.9
NE	1.2	.8	.8	.3	.1							3.2	6.1
ENE	.6	.9	.6	.1								2.1	5.4
E	.9	1.7	1.0		.3							3.9	6.5
ESE	.4	.8	1.3	.1								2.7	6.7
SE	.4	2.3	2.4	.6	.2							6.3	7.4
SSE	.8	2.6	2.7	1.2								7.2	7.3
S	1.4	3.9	2.4	2.1	.3							10.2	7.6
SSW	.6	4.8	1.0	.1								6.4	5.3
SW	1.1	2.8	.8									4.7	4.6
WSW	1.2	1.6	1.0	.1	.1							4.3	5.4
W	2.1	3.8	1.0	.1	.3	.2						7.6	5.8
WNW	1.1	2.4	1.1	.3		.3						5.3	6.8
NW	1.0	1.1	.9	.6	.3	.1						4.3	8.1
NNW	1.1	2.2	1.7	.7	.1	.2						6.3	7.4
VARBL													
CALM												10.9	
	15.8	36.1	23.3	10.2	2.3	1.3						100.0	6.2

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
YEARS

SEP
MONTH

ALL WEATHER
CLAS

ALL
MOUSE (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	3.1	4.5	3.7	.8	.1						13.1	9.5
NNE	.5	1.0	1.3	.8	.1	.2						3.7	8.2
NE	.4	.7	.6	.2	.0			.2				1.9	6.6
ENE	.4	.6	.7	.2	.2	.2	.7					2.2	7.4
E	.6	1.1	1.2	.5	.2							3.5	7.7
ESE	.5	.9	1.0	.3								2.7	6.8
SE	.5	1.7	1.6	.7	.1							4.6	7.7
SSE	.8	2.1	2.6	1.7	.4	.1						7.7	8.7
S	1.0	3.1	3.3	2.8	.7	.2	.2					11.1	9.1
SSW	.8	1.9	1.3	.9	.1	.0	.7					5.1	7.6
SW	.9	1.9	1.2	.5	.1		.2					4.7	6.6
WSW	.9	1.7	1.2	.6	.1	.0						4.6	6.9
W	1.5	3.7	2.2	1.2	.4	.2						8.4	7.6
WNW	.9	1.6	1.6	1.0	.4	.4						5.8	9.2
NW	.8	1.8	1.9	1.3	.5	.3	.1					6.8	9.5
NNW	.9	1.8	2.5	1.8	.3	.1	.2					7.4	8.6
VARBL													
CALM												6.9	
	12.1	28.2	28.9	18.2	4.1	1.4	.2	.2				100.0	7.8

TOTAL NUMBER OF OBSERVATIONS 7230

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS 261 MONTHS
0000-2200 HOURS (LST)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.6	2.2	3.3	1.0	.1						8.7	10.5
NNE	.2	.4		.5								1.2	8.3
NE	.1	1.0	.5	.3								1.9	7.3
ENE	.6	.4	.1	.1								1.3	4.3
E	.1	.3	.2			.1						1.2	7.3
ESE	.5	1.1	.3									1.9	4.7
SE	.3	1.3	.6	.4								2.7	6.8
SSE	.3	1.8	3.1	2.6	1.0							8.8	10.3
S	.3	2.9	4.9	2.8	.9							11.8	9.4
SSW	.6	1.4	1.4	.6								4.1	6.9
SW	.9	3.7	2.2	.2								6.9	5.8
WSW	1.1	1.7	1.2	.5	.2							4.7	6.9
W	1.2	5.3	3.0	1.6		.1						11.2	7.1
WNW	1.3	1.9	2.6	1.6	.1							7.5	8.0
NW	1.0	1.4	3.1	1.4		.2						7.5	8.1
NNW	.4	2.0	3.1	2.7	.9	.5	.1					9.8	10.8
VARBL													
CALM												8.7	
	9.6	29.1	28.6	18.8	4.0	1.1	.1					100.0	7.6

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS OCT 0300-2500 HOURS (L.S.T.)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	1.7	2.7	3.7	1.2	.1						1.2	12.5
NNE	.3	.4	.8	.3								1.6	8.1
NE	.4	.2		.2								.9	5.3
ENE	.1	.1	.1	.1								.4	7.5
E	.1	1.0	.8	.1								1.9	6.6
ESE	.2	.5										.8	4.9
SE	.4	1.5	.5	.4								2.9	6.5
SSE	.6	2.3	3.4	2.9	.1							9.4	6.9
S	.3	2.2	5.9	3.6	.3	.1						12.4	9.5
SSW	.6	1.7	1.4	1.1								4.8	7.2
SW	.6	2.3	1.0	.4								4.3	5.8
WSW	.5	2.3	1.0	.3								4.1	6.1
W	1.5	4.1	4.0	2.4	.5							12.5	8.0
WNW	1.5	3.6	4.6	1.3	.1							11.1	7.2
NW	.6	1.8	2.7	1.3								6.5	6.0
NNW	.2	1.9	2.0	2.4	.4		.2					7.2	1.4
VARBL													
CALM												8.8	
	9.1	27.6	40.9	20.5	2.7	.2	.2					100.0	7.6

TOTAL NUMBER OF OBSERVATIONS 929

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIP WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORMS AFB ND 77-82 YEARS 267 MONTH 1600-2800 HOURS (LST)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	2.4	3.2	4.0	1.4							11.6	12.5
NNE	.1	.5	.4	.3								1.4	7.8
NE	.1	.1		.2								.4	7.8
ENE	.2	.3		.1								.6	5.8
E	.9	.2	.8	.1								1.9	5.5
ESE	.3	.4										.3	4.1
SE	.5	1.1	1.6	.3	.1							3.7	7.3
SSE	.5	2.2	3.7	2.5	.6							9.5	9.3
S	1.4	3.7	4.6	2.9	.6							13.2	6.3
SSW	.3	1.2	1.5	1.0								4.3	7.9
SW	.3	1.5	1.0	.1								2.9	6.0
WSW	.6	1.5	1.5	.4								4.1	6.8
W	2.4	4.9	4.3	2.4	.3							14.2	7.3
WNW	.4	3.5	2.7	1.7	.6	.1	.1					9.2	9.0
NW	.8	1.7	1.9	1.6	.3							6.3	8.4
NNW	.5	1.4	2.2	2.6	.6	.1	.2					7.6	10.5
VARBL													
CALM												9.5	
	10.1	26.6	29.4	23.2	4.7	.2	.3					100.0	7.8

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND STATION NAME 73-82 YEARS 061 MONTH 001-1100 HOURS (LST)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.6	3.0	5.0	1.8	.6						11.3	12.5
NNE	.3	.2	1.0	1.0								2.5	9.7
NE	.5	.9	.5	.3								2.3	6.6
ENE	.6	.4	.3									1.4	4.5
E	.4	.9	.9	.1								2.3	6.2
ESE	.2	.2	.3	.3								1.1	6.2
SE	.4	.6	1.0	.6	.1							2.3	8.1
SSE	.5	1.5	2.0	3.0	1.8	.4						7.4	12.7
S	.9	.6	3.4	5.9	2.4	.1						12.3	12.1
SSW	.6	1.1	1.7	2.3	.2	.1						6.3	9.7
SW	.6	1.2	1.0	1.2	.2							4.2	6.5
WSW	.6	.4	1.7	1.6	.3							4.7	9.6
W	.3	1.4	2.8	2.4	1.0	.2						9.1	10.8
WNW	.2	1.3	2.6	2.0	.6	.2	.3					7.3	11.6
NW	.4	1.6	2.4	2.7	1.4	.2	.2					8.9	11.6
NNW	.4	2.0	2.7	2.0	1.6	.5						9.6	11.6
VARBL													
CALM												2.9	
	7.5	16.0	27.3	31.5	11.7	2.5	.5					100.0	10.6

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AF-WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-81 YEARS OCT 1922-1922 MONTHS (L & T)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	1.3	3.3	7.2	2.7	.4	.1					12.3	13.2
NNE	.1	.3	1.2	1.2								2.8	1.2
NE		.9	.3	.3								1.5	6.4
ENE	.2	1.7	.5	.2								1.9	6.8
E	.5	1.3	.8	.4								2.7	7.2
ESE	.1	.9	.1	.4								1.5	7.8
SE	.1	.2	1.3	.9	.2							2.7	13.1
SSE		1.1	1.7	2.7	2.3	1.2	.1					9.3	14.5
S	.1	1.5	4.0	4.0	2.4	.5	.2					12.7	12.6
SSW	.2	.9	1.8	2.4	.5	.3						6.1	11.6
SW		.2	1.7	3.0	.4							5.4	12.3
WSW	.1	.9	1.1	1.5	.2							3.7	10.9
W	.2	.1	2.4	3.3	1.2	.2	.1	.1				7.6	13.4
WNW	.3	.9	1.5	2.8	1.5	.5	.1					7.5	13.3
NW	.4	.9	3.0	2.2	1.7	.6	.1					8.9	12.9
NNW	.4	1.2	1.3	3.5	1.6	.5	.1					6.7	13.1
VARBL													
CALM												1.9	
	3.1	12.8	26.0	36.0	14.7	4.4	.9	.1				100.0	12.6

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS MONTH 267
15.0-17.0
HOURS (L.S.T.)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.1	1.8	5.2	6.3	1.9	.5	.4					15.3	12.6
NNE	.2	1.1	.8	1.1								3.1	6.5
NE	.2	1.2	1.1	.5	.1							3.1	8.2
ENE	.6	.6	.8	.2								2.3	6.2
E	.4	.6	.9	.2								2.2	6.7
ESE	.2	.6	.8	.2								1.8	6.9
SE		.9	.6	.9	.3							2.7	10.1
SSE	.2	1.7	1.9	3.3	1.9	.6	.3					9.4	13.8
S	.1	1.2	3.5	4.2	1.9	.4	.1					11.5	12.6
SSW		.6	2.4	1.6	.4							5.1	10.5
SW	.1	.9	1.4	1.3	.2	.1						3.9	9.7
WSW	.5	.6	1.0	1.2	.2							3.5	9.6
W	.6	1.3	1.7	1.8	.9	.3	.1					6.8	10.8
WNW	.3	.6	1.1	3.7	1.0	.6	.2	.1				7.6	13.8
NW	.1	1.6	2.8	3.5	1.2	.2						9.5	11.5
NNW	.2	.6	1.9	3.8	1.2	.4						8.2	12.6
VARBL													
CALM												3.1	
	4.1	15.3	27.7	33.9	11.3	3.3	1.2	.1				100.0	11.2

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 OCT
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
1500-2000
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	3.4	4.2	4.0	1.1		.3					14.1	9.9
NNE	.4	1.0	.6	.6								2.7	7.4
NE	.8	1.5	.8	.2								3.2	5.4
ENE	1.1	1.3	.2	.3	.2							3.1	5.9
E	.5	1.0	.3	.2								2.0	5.4
ESE	.1	1.0	.5	.1								1.7	6.5
SE	.4	1.7	2.4	1.3	.1							5.9	7.9
SSE	1.0	2.9	2.7	3.8	.8							11.1	9.5
S	.5	3.4	4.6	1.9	.4	.2						11.2	8.6
SSW	.3	2.4	.9	.5	.2							4.3	7.3
SW	1.2	2.5	.8	.4								4.8	5.8
WSW	1.2	1.6	.8	.1								3.7	5.2
W	1.2	2.0	1.3	.9	.4	.2	.2					6.2	8.7
WNW	.8	1.8	1.6	.4	.1			.1				4.8	7.4
NW	.4	1.5	2.0	1.4	.5	.1						6.0	9.4
NNW	1.2	2.6	1.9	1.9	.8	.4						8.8	9.3
VARBL													
CALM												6.2	
	12.2	31.6	25.6	18.2	4.6	1.0	.5	.1				100.0	7.7

TOTAL NUMBER OF OBSERVATIONS 937

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORMS AFB MO STATION NAME 73-82 YEARS 207 MONTH 2130-2330 HOURS (LST)

ALL WEATHER

CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	2.3	3.7	3.5	.8	.1	.2					11.8	13.8
NNE	.2	.6		.3								1.2	6.8
NE	.3	.8	.5	.6	.1							2.4	6.3
ENE	.4	.6	.3	.2								1.6	5.5
E	.3	1.4	.5									2.3	5.1
ESE	.2	1.0	.1									1.3	5.0
SE	.3	.6	1.2	.5								2.7	7.9
SSE	.6	2.5	3.2	3.5	1.0							13.9	10.2
S	1.4	3.8	4.6	2.2	.2							12.2	7.7
SSW	.8	1.9	1.4	.8	.3							5.2	7.5
SW	1.4	1.9	1.8	.4	.2							5.8	6.2
WSW	.4	2.9	.8	.5								4.6	6.2
W	1.4	3.8	1.4	1.6	.1							8.3	7.0
WNW	.9	2.2	1.4	1.1	.3	.2	.2					6.2	9.0
NW	1.6	1.9	2.7	1.4	.4							8.1	7.8
NNW	1.0	1.5	1.8	1.9	.3	.9	.2					7.6	11.0
VARBL													
CALM												9.0	
	11.5	29.7	25.5	18.7	3.8	1.2	.6					100.0	7.6

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS 365 MONTHS
ALL WEATHER CLASS ALL HOURS (L & T)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	2.0	3.4	4.8	1.5	.2	.1					12.5	11.4
NNE	.2	.6	.6	.7								2.1	8.5
NE	.3	.3	.5	.3	.0							2.0	7.1
ENE	.5	.5	.3	.2	.0							1.6	5.8
E	.4	.8	.6	.1		.0						2.1	6.2
ESE	.2	.7	.3	.1								1.4	6.1
SE	.3	1.0	1.2	.7	.1							3.3	8.0
SSE	.5	1.9	2.7	3.0	1.2	.3	.1					9.7	11.0
S	.6	2.4	4.5	3.4	1.1	.2	.0					12.3	10.1
SSW	.4	1.4	1.6	1.3	.2	.1						4.9	6.8
SW	.6	1.7	1.3	.9	.1	.0						4.8	7.5
WSW	.6	1.5	1.1	.8	.1							4.1	7.6
W	1.1	2.8	2.6	2.0	.6	.1	.1	.0				9.4	8.8
WNW	.7	2.0	2.3	1.8	.6	.2	.1	.0				7.7	9.8
NW	.7	1.6	2.6	1.9	.7	.2	.0					7.7	9.9
NNW	.6	1.7	2.1	2.6	1.0	.4	.1					8.4	11.2
VARBL													
CALM												6.2	
	8.4	23.6	27.6	24.7	7.2	1.7	.6	.2				120.0	9.0

TOTAL NUMBER OF OBSERVATIONS 7439

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-82 YEARS 1000-0000
MOON

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	2.1	2.6	4.4	1.3	.6	.2					12.1	11.6
NNE	.2	.7	.7	.3	.2							2.1	6.4
NE	.3	.2	.2	.1								.2	5.9
ENE		.4	.2	.2								.2	7.5
E		.6	.3									.2	6.0
ESE	.3	.1	.6	.1								1.1	7.3
SE	.9	1.0	.3									2.2	4.5
SSE	.4	2.2	3.0	1.0	.9							7.6	8.9
S	.6	4.7	5.7	1.8	.1							12.8	7.7
SSW	1.0	2.9	2.2	1.0								7.1	6.9
SW	1.2	2.4	1.3	.4								5.4	5.6
WSW	.8	2.1	1.0	.3		.1	.1					4.4	7.0
W	1.3	3.1	2.6	1.8	.1	.1						9.2	7.7
WNW	.9	1.8	2.4	2.7	.3	.2						8.3	9.3
NW	.9	2.1	2.9	1.6	.4		.1	.1				6.1	9.2
NNW	.4	1.4	3.2	2.0	.9	.3	.3					8.7	11.2
VARBL													
CALM												8.3	
	19.2	27.9	29.2	17.8	4.3	1.3	.8	.1				100.0	7.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORMS AFB ND 73-84 NOV
STATION STATION NAME YEARS MONTHS
ALL WEATHER
CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	2.3	4.2	4.9	1.9	.3	.1					14.4	11.2
NNE		.1	.3	.1	.1							.7	15.8
NE	.2		.4	.1								.8	7.4
ENE		.4	.3	.1								.9	7.8
E	.1	.4	.2									.8	5.3
ESE	.4	.3	.1									.9	4.6
SE	.4	1.1	1.0	.3								2.9	6.5
SSE	1.0	2.0	2.6	1.1	.1							6.8	7.6
S	.7	3.1	5.3	4.0	.1							13.2	8.7
SSW	.6	2.0	1.9	.8	.1							5.3	7.2
SW	1.2	2.9	1.0	.2								5.3	5.2
WSW	.6	1.7	1.4	.2								3.9	6.3
W	1.3	3.2	2.6	2.1	.3		.3					9.9	8.7
WNW	.4	1.9	3.6	1.8	.1							7.8	8.5
NW	.4	2.1	3.7	2.3	.3	.4						9.3	9.8
NNW	.4	2.3	2.1	2.0	.9	.7						8.4	10.9
VARBL													
CALM												8.7	
	8.7	26.0	50.8	20.1	3.9	1.4	.4					100.0	8.0

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION 73-82 NOV MONTH
GRAND FORKS AFB ND
ALL WEATHER CLASS
2630-7820 HOURS (L.S.T.)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.2	2.0	4.1	4.0	1.6	.4	.3					12.7	11.9
NNE		.6	.8		.1	.1						1.6	2.4
NE		.6	.2									.5	5.3
ENE	.2	.2	.2									.7	5.8
E	.2	.3	.1									.7	5.3
ESE	.2	.8	.1									1.1	4.8
SE	.6	1.0	1.6	.6								3.7	7.4
SSE	.8	2.9	3.0	.6	.2							7.4	7.2
S	.7	4.4	5.2	3.0								13.3	8.2
SSW	.9	1.7	1.4	.9								4.9	6.8
SW	.7	.8	.9	.8								3.1	7.3
WSW	.4	1.6	1.1	.3								3.4	6.4
W	.4	3.3	3.1	1.8	.7	.4						9.8	9.3
WNW	.7	2.6	4.3	1.7	.4	.1						9.8	8.4
NW	1.1	1.8	3.8	1.9	.4	.6						9.6	9.5
NNW	1.2	1.9	1.8	3.0	1.0	.4						9.3	10.3
VARBL													
CALM												8.2	
	8.3	26.3	31.8	18.4	4.4	2.1	.3					100.0	8.1

TOTAL NUMBER OF OBSERVATIONS 970

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 40V
STATION STATION NAME YEARS MONTH
ALL WEATHER CLASS 1992-1992
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	2.1	3.1	5.5	1.6	.4	.6					14.1	12.2
NNE	.3	.3	.7	.4								1.8	7.4
NE	.1	.1	.4	.2								.9	6.5
ENE	.3	.4	.4									1.2	5.5
E	.2	.3	.2									.3	5.6
ESE		.3	.2									.6	6.2
SE	.4	1.2	1.0	.3								3.0	6.2
SSE	.6	2.4	2.6	2.8	.6							6.9	9.5
S	.6	2.3	3.8	4.2	.8	.2						11.9	10.2
SSW	.4	1.2	2.0	1.0	.1							4.8	8.1
SW	.8	.6	1.6	.7								3.6	7.4
WSW	.1	1.6	.9	.8								3.3	5.2
W	.2	2.4	4.0	1.6	.8	.2	.2					9.5	9.9
WNW	.3	2.2	2.4	2.8	.6	.2	.4					9.0	11.2
NW	.6	2.0	4.4	3.9	1.3	.4						12.7	10.8
NNW	.3	1.1	2.9	4.3	1.1	.8						10.6	12.4
VARBL													
CALM												3.4	
	6.2	20.8	30.7	28.5	6.8	2.3	1.2					100.0	9.9

TOTAL NUMBER OF OBSERVATIONS 899

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 NOV
STATION MONTH
ALL WEATHER 1200-1400
CLASS HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.3	1.4	5.4	4.7	2.2	.9	.2	.2				16.8	12.7
NNE	.3	.3	1.4	1.1								3.2	9.1
NE		.2	.1	.1								.4	7.8
ENE	.2	.1	.4	.1								.7	6.3
E	.2	.1	.6	.1								1.0	7.6
ESE	.3	.7	.2									1.2	4.8
SE	.4	1.7	1.3	.6	.1							3.4	7.9
SSE	.3	2.1	1.8	2.6	.7	.2						7.6	12.3
S	.3	.7	3.8	3.6	1.3	.7						12.3	12.0
SSW	.2	.4	1.9	2.0	.7							5.2	11.5
SW	.2	.7	1.6	.6								3.0	6.2
WSW	.2	.9	1.4	.9								3.4	7.9
W	.3	1.8	3.7	2.2	.3	.4	.1					8.9	12.1
WNW	.1	1.8	3.4	4.0	.9	.2	.3					12.8	11.7
NW	.8	1.4	1.4	3.1	1.8	.3	.1					9.1	12.1
NNW	.4	1.8	2.2	4.7	2.1	.7						11.9	12.5
VARBL													
CALM												2.9	
	5.9	15.7	30.8	30.2	10.1	3.4	.8	.2				120.0	12.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION NO

GRAND FORKS AFB ND
STATION NAME

73-8
YEAR

NOV
MONTH

ALL WEATHER
CLASS

1500-1700
HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.4	3.2	5.1	5.6	2.1	.3	.1	.2				17.1	11.5
NNE	.3	1.0	1.7	.9								3.9	6.1
NE	.7	.3	.1	.1								1.2	4.5
ENE	.6	.9	.2	.3								2.0	6.2
E	.8	.6	.3									1.7	4.7
ESE	.2	.3	.6	.4								1.6	7.7
SE	.2	1.3	1.6	.2	.1							3.4	7.6
SSE	.9	1.9	2.7	1.9	1.1	.1	.2					9.8	10.1
S	.4	2.9	3.1	2.4	.7	.2						9.8	9.5
SSW	.6	.7	1.6	1.4	.7	.1						5.0	10.1
SW	.4	1.2	1.1	.2								3.0	6.3
WSW	.2	1.4	1.1	.3								3.1	6.9
W	1.5	2.8	2.4	1.3	.7	.1						4.3	8.3
WNW	.6	1.9	2.1	2.3	.8	.1	.3					8.1	11.1
NW	.7	1.4	2.9	3.0	.7	.1	.2					9.0	10.7
NNW	.4	1.1	1.1	3.4	1.7	.8		.1				8.7	13.6
VARBL													
CALM												5.3	
	9.4	23.0	27.7	24.0	8.4	1.9	.9	.3				100.0	9.4

TOTAL NUMBER OF OBSERVATIONS 970

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 40V
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
CONDITION
1970-2000
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	3.6	3.3	4.4	.8	.7	.4					14.3	10.4
NNE	.6	1.2	.7	.4								2.9	2.2
NE	.6	.6		.3								1.1	7.6
ENE	.6	.6	.1	.1								1.3	4.8
E	.6	.9	.9	.1								2.4	6.1
ESE	.3	.9	.6	.2								2.0	2.2
SE	.4	1.2	.4									2.1	4.9
SSE	1.6	2.4	2.8	1.4	.4	.1						3.8	7.9
S	.8	3.6	5.0	2.0	.8	.1						12.2	6.4
SSW	.7	3.1	1.3	.6	.2							5.7	6.7
SW	.6	1.6	1.1	.1								3.3	5.9
WSW	1.0	1.9	.7	.1								2.7	5.0
W	1.3	4.1	1.9	1.7	.1							7.1	6.8
WNW	.3	3.0	2.3	1.7	.7	.1						7.8	9.1
NW	.7	2.2	1.7	1.2	.6	.1		.1				6.6	9.1
NNW	.6	.9	2.4	2.8	.7	.2		.2				7.8	11.7
VARBL													
CALM												3.7	
	11.2	31.7	24.9	17.2	4.2	1.3	.4	.3				100.0	7.6

TOTAL NUMBER OF OBSERVATIONS 730

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORMS AFB MO 73-82 40V
STATION STATION NAME YEARS NORTH
ALL WEATHER
CLASS 2122-2322
HOURS (LST)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.0	3.9	4.0	1.4	.9	.7					14.7	11.6
NNE	.2	.3	.3	.2	.1	.1						1.3	7.6
NE		.3	.1	.3								.3	9.7
ENE	.4	.3	.4	.1								1.3	5.6
E	.6	.4	1.0	.2								2.2	6.5
ESE	.3	1.1	1.7									2.4	5.9
SE	.3	1.1	.9									2.3	5.9
SSE	1.2	1.4	1.6	.6	.7							5.4	8.0
S	.8	4.2	5.8	2.2	.6							13.6	8.3
SSW	.7	2.8	2.2	1.3	.2							7.2	7.7
SW	1.2	2.2	1.2	.2								4.2	5.4
WSW	.8	2.3	1.2			.1						4.1	5.9
W	1.8	4.7	2.6	1.7				.1				10.1	6.9
WNW	.3	2.8	2.0	1.9	.6							7.6	8.9
NW	.3	1.6	3.2	1.7	.7	.2		.3				6.3	11.0
NNW	.6	.8	1.6	2.0	.6							5.4	10.1
VARBL													
CALM												8.6	
	10.6	20.2	29.0	16.4	4.8	1.3	.7	.4				100.0	7.8

TOTAL NUMBER OF OBSERVATIONS 922

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

STATION 727575 GRAND FORKS AFB ND YEARS 17-84
STATION NAME CLASS ALL WEATHER
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.3	2.5	4.0	4.7	1.6	.6	.3	.1				14.5	11.6
NNE	.7	.6	.8	.4	.1	.7						2.2	2.3
NE	.2	.3	.2	.2								.7	5.9
ENE	.7	.4	.3	.1								1.2	6.1
E	.3	.5	.5	.1								1.3	5.9
ESE	.3	.6	.4	.1								1.4	6.2
SE	.5	1.1	1.7	.3	.7							2.7	6.6
SSE	.8	2.2	2.5	1.5	.6	.1	.7					7.7	6.8
S	.6	3.2	4.7	2.9	.5	.2						12.1	5.2
SSW	.6	1.8	1.8	1.1	.3	.7						5.7	8.2
SW	.8	1.5	1.2	.4								4.2	9.2
WSW	.5	1.6	1.1	.4		.7	.7					3.7	6.7
W	1.0	3.1	2.8	1.8	.4	.2	.1	.0				7.3	5.5
WNW	.5	2.2	2.8	2.3	.5	.1	.1					3.6	7.9
NW	.7	1.8	3.0	2.3	.8	.3	.1	.1				9.2	1.3
NNW	.6	1.4	2.2	3.0	1.1	.5	.7	.0				6.9	11.7
VARBL													
CALM												5.5	
	2.7	24.9	29.4	21.6	5.9	1.9	.7	.2				100.0	6.7

TOTAL NUMBER OF OBSERVATIONS 7199

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION GRAND FORKS AFB ND 73-84 YEARS MONTH 2-6
STATION NAME CLASS 727-7276
HOURS (L & T)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	2.4	4.7	5.2	1.5	.1	.1	.2				15.7	10.4
NNE	.5	.2	.6	.1	.1							1.6	7.0
NE		.2	.3	.8								1.3	9.9
ENE		.5	.6	.1								1.3	7.6
E	.3	.4										.6	3.7
ESE	.2	.5	.4	.1								1.3	6.3
SE	.3	1.4	1.4	.4								3.5	7.1
SSE	.3	1.9	2.8	1.7	.4							7.2	9.1
S	1.6	2.4	2.8	4.2	1.2	.2						12.2	9.7
SSW	1.1	1.5	.9	.8	.3							4.5	7.6
SW	1.7	2.2	1.1	.8	.1							5.8	6.1
WSW	1.5	2.2	1.4	.3	.4							5.2	7.2
W	1.1	2.2	2.7	1.3	.5	.2	.1					6.1	8.7
WNW	.9	1.6	3.3	1.9	.6	.1						5.5	9.5
NW	.9	2.3	1.6	2.3	.5							7.5	9.0
NNW	.9	1.3	4.2	2.3	1.7	.2						9.8	10.1
VARBL													
CALM												5.9	
	11.8	23.3	28.9	21.9	6.8	.2	.2	.2				100.0	6.4

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION SPAND FORKS AFB ND 72-82 YEARS 2.0 MONTH
ALL WEATHER CLASS 0707-0500 HOURS (L E T)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	2.8	4.5	3.7	2.9	.9	.1	.1				15.8	11.7
NNE	.2	.2	.4	.9	.1							1.3	9.9
NE	.2	.5	.3	.1								1.2	6.7
ENE	.3	.5	.3	.4								1.6	6.9
E	.1	.3	.3	.1								.9	7.3
ESE	.2	.5	.5	.5								1.9	8.1
SE	.5	1.1	1.6	.8								3.2	7.7
SSE	.2	1.5	2.5	1.2	.2							5.6	8.8
S	1.1	4.1	2.8	3.7	1.5							13.1	9.4
SSW	.5	1.2	.8	.9	.1	.1						3.5	6.5
SW	1.2	1.2	.8	.3								3.4	5.3
WSW	.5	1.4	1.3	1.7		.1						4.3	7.9
W	1.6	2.9	1.9	1.4	.3	.3						8.4	6.2
WNW	.8	2.4	3.2	1.5	.3	.1						8.3	6.3
NW	.6	3.7	3.3	2.2	.9	.1						10.2	9.0
NNW	1.1	2.2	2.7	2.3	.6	.1						9.3	9.1
VARBL													
CALM												8.2	
	10.1	25.7	26.7	20.8	6.9	1.7	.1	.1				100.2	6.3

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 DEC
STATION STATION NAME YEARS MONTH
ALL WEATHER
CLASS
622-0620
MOORE (L.S.T.)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.2	2.7	3.7	4.1	2.3	1.0						15.6	11.7
NNE	.1	1.1	1.0	.4								2.6	7.6
NE	.1	.4	.4	.3								1.3	8.0
ENE		.9	.3	.4								1.5	7.6
E	.3	.5	.3	.1								1.3	5.6
ESE		.2	.3	.2	.3							1.1	11.4
SE	.5	1.7	1.1	1.0	.2							4.5	8.0
SSE	.6	1.7	2.4	.8	.2							5.7	7.8
S	1.3	4.2	5.1	3.2	1.7							15.5	9.3
SSW	.3	1.2	.4	.6	.2							2.3	8.2
SW	.1	1.1	1.0									2.2	6.0
WSW	.2	.6	.8	.8	.1							2.5	9.1
W	1.0	2.6	3.5	1.8	.6	.1						9.7	8.7
WNW	.8	2.9	3.0	2.2	.5	.3						9.7	9.0
NW	1.1	2.4	2.4	1.5	.6	.3						8.3	8.8
NNW	.9	2.7	2.5	1.9	1.0	.4						9.4	10.0
VARBL													
CALM												6.5	
	9.5	27.1	26.1	19.4	8.4	2.2						100.0	8.6

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 77-82 D.C.
STATION STATION NAME YEARS NORTH
ALL WEATHER
CLASS 900-1100
HOURS (LST)
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.4	2.9	5.6	2.8	.3						14.2	11.6
NNE	.1	.8	1.0	.4								2.1	7.9
NE	.3	.2	.5	.3								1.4	7.5
ENE	.3	.2	.5	.1								1.2	6.4
E	.1	.1	1.2	.2								1.6	6.5
ESE	.1	.3	.3	.2	.1							1.1	7.3
SE	.4	.9	1.2	.5								3.2	7.4
SSE	.4	.9	2.9	1.5	1.1	.1						6.9	10.8
S	1.4	3.3	5.4	4.5	2.0	.2						16.9	12.0
SSW	.4	.6	.8	.6	.1							2.6	8.2
SW	.2	.9	.4	.1								1.6	6.2
WSW	.6	.9	.3	.6								2.5	7.4
W	1.1	2.5	2.8	2.4	.8	.8						10.2	10.2
WNW	.9	1.9	2.5	1.3	1.3	.1						8.2	9.9
NNW	.8	2.4	2.2	2.3	.5	.2						8.3	9.4
NNW	.8	2.2	2.8	3.2	1.8	.4	.1					11.3	11.5
VARBL													
CALM												6.3	
	8.9	20.3	27.6	24.0	10.5	2.2	.1					100.0	9.4

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORKS AFB ND 73-82 DEC
STATION STATION NAME YEARS MONTH
ALL WEATHER 1220-1420
CLASS HOURS (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	1.7	3.9	8.1	2.3	.6						17.4	12.3
NNE	.1	.3	.8	.5								1.7	6.7
NE	.3	.5	.9									1.7	6.4
ENE	.1	.2	.5	.2								1.1	6.2
E	.4	.4	1.3	.3								2.5	7.3
ESE			.4		.1							.5	9.6
SE	.2	.8	1.3	1.1								3.3	9.1
SSE	.2	1.7	2.6	1.0	.8	.1						5.3	9.6
S	.6	2.0	3.3	5.3	2.8	.3						14.4	11.9
SSW	.2	.9	1.0	1.2	.3							3.5	9.8
SW	.2	1.2	1.1	.4	.2	.1						3.2	9.0
WSW	.3	.9	.8	1.5								3.4	9.5
W	.8	1.9	2.4	2.6	.6	.4						6.7	9.9
WNW	.3	.9	2.2	2.9	.6	.4	.1					7.4	11.9
NW	.5	2.2	2.9	2.8	.3	.2	.1					9.0	10.0
NNW	.5	1.5	1.9	4.5	2.3	.5						11.3	12.6
VARBL													
CALM												4.3	
	5.8	17.1	27.1	32.4	10.3	2.8	.2					120.2	14.4

TOTAL NUMBER OF OBSERVATIONS 932

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 GRAND FORKS AFB ND 73-82 3-0
STATION NUMBER STATION NAME YEARS MONTH
ALL WEATHER CLASS 1577-1770
HOURS (L & T)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.5	5.6	6.8	2.8	.2						10.8	11.3
NNE	.5	.5	.6	.3								2.0	6.8
NE		.1	1.0									1.1	6.7
ENE		.1	1.0	.3								1.4	9.2
E	.3	.6	1.2	.2	.1							2.5	7.3
ESE	.2	.5	.8		.1							1.6	7.4
SE	.2	1.1	1.4	.4								3.1	7.7
SSE	.2	.8	1.8	1.9	1.2							5.9	11.3
S	.9	2.8	5.2	4.8	1.9							15.6	10.6
SSW	.6	1.5	.9	.9								3.9	6.9
SW	.3	1.2	.6	.5	.1							2.8	7.4
WSW	.4	2.0	1.3	.2	.1	.1						4.2	7.2
W	1.1	2.0	2.6	1.3	.3	.3	.1					7.7	6.9
WNW	.3	1.9	2.6	1.5	.8	.2						7.3	9.7
NW	.8	1.6	1.6	2.2	.3	.3						6.8	9.8
NNW	.5	1.8	2.8	3.3	.9	.2	.1					9.7	10.9
VARBL													
CALM												5.6	
	7.4	21.2	30.9	24.7	8.6	1.4	.2					100.0	9.2

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIF WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORMS AFB ND 73-82 YEARS DEC MONTH 1900-2000 HOURS (L.S.T.)
ALL WEATHER CLASS
CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.6	2.3	4.0	6.9	1.4	.3						15.5	11.3
NNE	.2	.4	1.0	.5								2.2	8.1
NE	.1	.4	.5	.1								1.2	6.9
ENE	.2	.4	1.0									1.6	7.4
E	.6	1.2	.4									2.3	4.9
ESE	.1	.2	.4	.3	.1	.1						1.3	10.4
SE	.8	1.0	.8	.6	.1							3.2	7.7
SSE	1.0	1.5	2.4	1.7	.5							7.1	9.0
S	.9	3.1	4.5	3.9	1.8	.1						14.3	12.1
SSW	.9	1.4	1.5	.9	.1							4.7	7.5
SW	.9	1.7	.3	1.0	.1							4.0	7.0
WSW	.5	1.5	.6	1.1								3.3	7.4
W	1.2	3.0	2.5	1.2	.2	.4						8.5	6.1
WNW	1.0	1.4	1.4	1.4	1.1	.2	.1					6.6	10.3
NW	.8	2.7	2.6	1.9	.3	.3						9.6	8.8
NNW	.6	1.1	2.5	1.9	1.3	.3						7.8	11.3
VARBL													
CALM												7.2	
	12.4	23.4	26.4	23.5	7.1	1.8	.1					100.0	8.6

TOTAL NUMBER OF OBSERVATIONS 927

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 STATION GRAND FORKS AFB ND 73-82 YEARS 810-2370 MONTH 1100-2370 HOUR (L.S.T.)

ALL WEATHER
CLASS

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.8	2.3	4.6	6.4	1.7	.4						10.2	11.3
NNE	.1	.6	.9	.1								1.7	6.9
NE	.2	.6	.5	.4								1.8	7.2
ENE	.2	.6	.9									1.7	6.7
E	.6	.8	.4									1.8	4.8
ESE	.4	.8	.1	.1								1.4	5.8
SE	.5	.5	1.0	.5								2.6	7.8
SSE	1.1	1.2	1.3	2.3	.4	.1						6.4	9.4
S	1.3	2.5	4.3	4.7	1.7	.1						14.7	10.2
SSW	.5	1.0	.8	.6	.4							3.3	8.9
SW	.6	1.9	.9	1.0		.1						4.5	7.5
WSW	.6	2.7	1.1	.4	.4							5.3	7.0
W	1.4	1.9	2.9	1.4	.4	.1						8.2	7.9
WNW	.8	1.0	2.6	1.1	.4		.1					5.9	9.1
NW	.5	2.8	2.9	2.9	.9	.1	.1					10.2	9.6
NNW	.2	1.3	1.6	2.0	.6	.6	.2					6.7	12.3
VARBL													
CALM												7.4	
	13.0	22.5	26.8	24.1	7.1	1.6	.4					100.0	8.7

TOTAL NUMBER OF OBSERVATIONS 927

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

727575 STATION 73-82 YEARS

GRAND FORKS AFB ND

73-82

71C

ALL WEATHER

CLASS

ALL

HOURLY (LST)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.9	2.4	4.2	5.8	2.3	.5	.0	.0				15.2	11.4
NNE	.2	.5	.8	.4	.0							2.0	7.9
NE	.2	.4	.6	.3								1.4	7.6
ENE	.1	.4	.6	.2								1.4	7.5
E	.4	.5	.6	.1	.0							1.7	6.4
ESE	.2	.4	.4	.2	.1	.0						1.3	8.3
SE	.4	1.0	1.2	.7	.0							3.4	7.8
SSE	.5	1.4	2.3	1.5	.6	.0						6.4	9.5
S	1.1	3.1	4.2	4.3	1.8	.1						14.6	10.2
SSW	.6	1.2	.9	.8	.2	.0						3.6	8.1
SW	.7	1.4	.8	.5	.1	.0						3.4	6.8
WSW	.5	1.5	.9	.7	.1	.0						3.9	7.7
W	1.1	2.4	2.7	1.7	.5	.3	.0					8.7	8.9
WNW	.7	1.7	2.6	1.7	.7	.2	.0					7.7	9.7
NW	.7	2.4	2.4	2.2	.5	.2	.0					8.6	9.3
NNW	.7	1.7	2.5	2.7	1.2	.4	.1					9.3	11.0
VARBL													
CALM												6.4	
	9.1	22.6	27.8	23.8	8.2	1.8	.2	.0				100.0	9.0

TOTAL NUMBER OF OBSERVATIONS 7434

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIP WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575 GRAND FORMS AFB ND 73-82 ALL MONTH

ALL WEATHER CLASS

ALL HOURS (L & T)

CONDITION

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	2.7	4.2	4.5	1.5	.5	.1	.0				14.0	10.9
NNE	.4	.9	1.2	.7	.1	.0	.0	.0				3.3	6.2
NE	.4	.7	.7	.3	.0	.0	.0	.0				2.1	7.1
ENE	.4	.7	.6	.2	.0	.0	.0					1.9	6.5
E	.6	1.0	.9	.4	.0	.0						2.9	6.7
ESE	.4	.9	.9	.4	.0	.0						2.6	7.2
SE	.5	1.4	1.5	.9	.1	.0	.0					4.5	6.0
SSE	.7	1.7	2.4	2.1	.7	.1	.0					7.7	9.7
S	.9	2.6	3.3	2.8	.9	.2	.0	.0				10.7	9.6
SSW	.6	1.4	1.1	.7	.2	.0	.0	.0				4.1	7.8
SW	.8	1.4	1.0	.5	.1	.0	.0					3.5	6.7
WSW	.7	1.3	.9	.5	.1	.0	.0					3.5	7.0
W	1.2	2.5	2.1	1.5	.4	.1	.0	.0				7.9	8.1
WNW	.8	1.7	2.0	1.7	.4	.2	.1	.0				6.8	9.4
NW	.8	1.8	2.3	1.9	.6	.2	.0	.0				7.6	9.5
NNW	.8	2.0	2.5	2.3	.8	.3	.1	.0				6.7	10.1
VARBL													
CALM												7.3	
	11.0	24.3	27.4	21.3	6.0	1.8	.3	.1				100.0	8.4

TOTAL NUMBER OF OBSERVATIONS 87632

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SURFACE WINDS

727575
STATION

GRAND FORKS AFB ND
STATION NAME

72-82
YEARS

ALL
MONTH

INSTRUMENT
CLASS

ALL
HOURS (LST)

CIG 200 TO 1400 FT W/ VSBY 1/2 MI OR MORE,

CONDITION

AND/OR VSBY 1/2 TO 2-1/2 MI W/CIG 200 FT OR MORE

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.5	2.7	6.2	17.6	5.3	2.3	.5	.0				28.5	13.5
NNE	.4	1.1	1.9	1.7	.3	.1						5.5	9.6
NE	.3	.8	.9	.8	.1							3.0	8.5
ENE	.4	.9	1.4	.9	.1	.7						3.6	8.5
E	.6	1.3	2.0	.9	.1							5.0	8.0
ESE	.4	1.1	1.5	.8	.2	.0						3.9	8.4
SE	.5	1.2	1.8	1.3	.1	.0						4.9	8.7
SSE	.5	1.4	2.2	2.1	.8	.2						7.1	10.4
S	.6	1.7	2.5	2.7	1.0	.2	.0					8.7	10.5
SSW	.3	.5	.6	.4	.1							2.0	6.2
SW	.2	.4	.1	.1	.0	.0						.9	6.4
WSW	.2	.3	.1	.1		.0						.7	7.0
W	.3	.4	.4	.4	.1		.1	.0				1.6	9.3
WNW	.3	.5	.7	.6	.3	.3	.2	.0				2.9	12.7
NW	.4	.8	1.5	1.4	.8	.4	.1	.0				5.5	12.0
NNW	.5	1.7	2.2	3.2	2.0	1.2	.2	.0				11.5	13.1
VARBL													
CALM												5.1	
	6.9	16.8	26.0	27.9	11.4	4.9	1.0	.1				100.0	10.6

TOTAL NUMBER OF OBSERVATIONS

8972

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART D CEILING VERSUS VISIBILITY

This summary is a bivariate percentage frequency distribution by classes of ceiling from zero to equal to or greater than 20,000 feet and as a separate class "no ceiling", versus visibility in 10 classes from zero to equal to or greater than 10 miles. Data are derived from hourly observations, and three sets of tables are presented as follows:

1. Annual - all years and all hours combined
2. By month - all years and all hours combined
3. By month - by standard 3-hour groups

Due to the cumulative nature of this presentation, it is possible to determine the percentage frequency of occurrence for any given limit of ceiling or visibility separately, or in combination of ceiling and visibility. The totals progress to the right and downward. Ceiling may be determined independently by referring to totals in the extreme right hand column. Also, visibility may be determined independently by reference to the horizontal row of totals at the bottom of the page. The percentage frequency for which the station was meeting or exceeding any given set of minima may be determined from the figure at the intersection of the appropriate ceiling column and visibility row. Several examples in the use of these tables are shown on pages 2 and 3 below.

U. S. Weather Bureau and Navy stations did not report ceilings within the range 10,000 feet and higher prior to January 1943. Summaries prepared from data for these stations using the earlier period and data subsequent to January 1943 will be modified to limit ceilings to 10,000 feet. Short periods of record prior to 1943 for these stations will be eliminated from the summary. For Air Force stations, the "no ceiling" category includes clear and scattered conditions, and ceilings above 20,000 feet for period through June 1943. Beginning in July 1943 for Air Force stations and January 1943 for USWB and U. S. Navy stations the "no ceiling" category consists of observations with less than 5/10 total sky cover and those cases where total sky cover is 5/10 or more, but not more than 1/2 of the sky cover is opaque.

Beginning in January 1968, METAR stations report visibilities to 6 miles and then greater than 6 miles. Thus, for METAR stations, the category equal to or greater than 10 miles is not printed in the tables, unless the summary was for a period ending before January 1968.

Continued on Reverse Side

EXAMPLES FOR USE OF CEILING VERSUS VISIBILITY TABLES IN THIS TABULATION

CEILING (FEET)	VISIBILITY (STATUTE MILES)															
	10	6	5	4	3	2	1	0.5	0.25	0.15	0.1	0.075	0.05	0.025	0.015	0.0075
NO CEILING																
1800																
1500					91.6											92.6
1200																
1000																
900																
800																
700																
600																
500											97.4					98.1
400																
300																
200																
100																
0					95.4		96.9			98.3						100.0

EXAMPLE # 1 Read ceiling values independently of visibility under column at right headed ≥ 0 .
For instance, from the table: Ceiling ≥ 1500 feet = 92.6%.
Ceiling ≥ 500 feet = 98.1%.

EXAMPLE # 2 Read visibilities independently of ceilings on bottom line opposite ≥ 0 . From the table:
Visibility ≥ 3 miles = 95.4%.
Visibility ≥ 2 miles = 96.9%.
Visibility ≥ 1 mile = 98.3%.

EXAMPLE # 3 To obtain combinations of ceiling with visibility, read figure at intersection of the two categories; i.e.: Ceiling ≥ 1500 feet with visibility ≥ 3 miles = 91.0%.

ADDITIONAL EXAMPLES

EXAMPLE # 4 Values below minimums stated in the table may be obtained by subtracting the value given in the table from 100%.
Thus, to obtain the percentage of observations with ceiling < 1500 feet and/or visibility < 3 miles, subtract the value read from the table at the intersection, which is 91.0, from 100.0. The answer 9.0 is the percentage of observations with ceiling < 1500 feet and/or visibility < 3 miles.

Likewise, the percentage of observations with ceiling < 500 feet and/or visibility < 1 mile is 2.6, obtained by subtracting 97.4 from 100.0.

EXAMPLE # 5 To find the percentage of observations falling within the two categories given in example above, subtract the value read from the table for the first set of limits from the value in the table for the second set of limits. The difference will be the percentage of observations meeting the lower set of limits, but not meeting the higher set of limits.

The value 91.0 read from the table at the intersection of ≥ 1500 feet with ≥ 3 miles, subtracted from 97.4 read from the table at the intersection of ≥ 500 feet with ≥ 1 mile is equal to 6.4%. Thus; 6.4 percent of the observations meet the criteria: "ceiling ≥ 500 feet with visibility > 1 mile, but < 3 miles; or ceiling ≥ 500 feet, but < 1500 feet with visibility ≥ 1 mile."

Since these tabulations are prepared in several ways including by month, by 3-hour groups it is possible to determine diurnal variations of ceiling and visibility limits as well as probabilities of various ceiling-visibility combinations.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-0500

48.1	49.9	50.2	50.5	51.1	51.1	51.6	51.9	52.7	52.3	52.6	52.7	53.1	53.1	53.1	53.1
50.5	52.7	53.0	53.3	53.9	54.0	54.5	54.8	54.9	55.2	55.5	55.6	56.0	56.0	56.1	56.0
50.6	52.8	53.1	53.5	54.1	54.2	54.7	55.1	55.2	55.4	55.7	55.8	56.2	56.2	56.2	56.2
50.6	52.8	53.1	53.5	54.1	54.2	54.7	55.1	55.2	55.4	55.7	55.8	56.2	56.2	56.2	56.2
52.1	54.2	54.5	54.9	55.5	55.6	56.1	56.5	56.6	56.8	57.1	57.2	57.6	57.6	57.6	57.6
52.7	54.9	55.3	55.7	56.2	56.3	56.9	57.2	57.3	57.5	57.8	58.0	58.4	58.4	58.4	58.4
54.7	57.0	57.3	57.7	58.3	58.4	58.9	59.4	59.5	59.7	60.0	60.1	60.5	60.5	60.5	60.5
54.9	57.2	57.5	58.1	58.6	58.7	59.2	59.7	59.8	60.0	60.3	60.4	60.9	60.9	60.9	60.9
57.2	59.6	60.1	60.6	61.2	61.3	61.8	62.3	62.4	62.6	62.9	63.0	63.4	63.4	63.4	63.4
58.1	60.5	61.1	61.6	62.3	62.4	63.0	63.5	63.7	63.9	64.2	64.3	64.7	64.7	64.7	64.7
59.4	61.9	62.6	63.1	64.1	64.2	64.8	65.4	65.5	65.7	66.0	66.1	66.6	66.6	66.6	66.6
61.3	64.1	64.8	65.4	66.6	66.8	67.4	68.0	68.1	68.5	68.8	68.9	69.4	69.4	69.4	69.4
61.3	64.1	64.8	65.4	66.6	66.8	67.4	68.0	68.1	68.5	68.8	68.9	69.4	69.4	69.4	69.4
63.0	66.3	67.6	68.5	69.9	70.1	71.1	71.6	71.7	72.2	72.5	72.6	73.0	73.0	73.0	73.0
64.7	67.4	68.7	69.6	71.3	71.5	72.5	73.0	73.1	73.5	74.0	74.1	74.5	74.5	74.5	74.5
64.9	68.7	70.1	71.1	73.2	73.4	74.4	74.9	75.1	75.7	76.1	76.2	76.7	76.7	76.7	76.7
66.3	70.5	72.0	73.2	75.7	76.1	77.3	77.8	78.1	78.7	79.1	79.2	79.7	79.7	79.7	79.7
68.1	72.8	74.5	75.8	78.5	79.0	80.3	80.9	81.1	81.8	82.3	82.4	82.8	82.8	82.8	82.8
68.3	73.0	74.9	76.2	78.9	79.5	81.0	81.5	81.7	82.5	82.9	83.0	83.4	83.4	83.4	83.4
69.7	75.1	77.2	78.6	81.3	81.8	83.9	84.4	84.6	85.5	86.0	86.1	86.6	86.6	86.6	86.6
70.8	76.8	79.0	80.4	83.2	83.8	86.2	86.9	87.2	88.3	88.8	88.9	89.7	89.7	89.7	89.7
71.3	77.6	79.9	81.3	84.2	84.7	87.2	88.0	88.4	89.8	90.3	90.4	91.2	91.4	91.4	91.4
71.3	77.6	79.9	81.4	84.3	84.8	87.3	88.1	88.5	89.9	90.4	90.5	91.3	91.5	91.6	91.6
71.3	77.7	80.0	81.5	84.4	84.9	87.4	88.2	88.6	90.0	90.5	90.6	91.4	91.6	91.7	91.7
71.5	78.2	80.5	82.0	85.1	85.6	88.1	88.8	89.2	91.0	91.5	91.6	92.4	92.6	92.7	92.7
71.8	79.0	81.4	83.2	86.3	86.9	89.4	90.1	90.8	92.7	93.3	93.4	94.5	94.7	94.8	94.8
71.8	79.2	81.6	83.4	86.8	87.3	89.9	90.8	91.4	93.3	94.1	94.2	95.3	95.5	95.6	95.7
71.8	79.4	81.7	83.5	86.9	87.4	90.4	91.5	92.2	94.1	94.9	95.1	96.3	96.6	96.7	96.8
71.8	79.4	81.7	83.5	86.9	87.4	90.4	91.6	92.3	94.2	95.1	95.2	96.8	97.0	97.1	97.2
71.8	79.4	81.7	83.5	86.9	87.4	90.4	91.6	92.3	94.5	95.7	95.9	97.6	97.8	98.3	98.4
71.8	79.5	81.8	83.7	87.0	87.5	90.5	91.7	92.4	94.6	95.8	96.0	98.1	98.3	98.9	99.0
71.8	79.5	81.8	83.7	87.0	87.5	90.5	91.7	92.4	94.6	95.8	96.0	98.1	98.3	98.9	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-2000

47.4	48.7	49.2	49.5	50.3	50.4	50.6	50.9	50.9	51.0	51.4	51.4	51.5	51.5	51.5	51.5
49.4	50.9	51.4	51.6	52.5	52.6	52.8	53.0	53.2	53.3	53.9	53.9	54.0	54.0	54.0	54.0
49.7	51.2	51.7	51.9	52.9	53.0	53.2	53.4	53.7	53.8	54.3	54.3	54.4	54.4	54.4	54.4
49.8	51.3	51.8	52.0	53.0	53.1	53.3	53.5	53.8	53.9	54.4	54.4	54.5	54.5	54.5	54.5
50.6	52.3	52.8	53.0	54.0	54.1	54.3	54.5	54.7	54.8	55.4	55.4	55.5	55.5	55.5	55.5
51.6	53.2	53.8	54.0	54.9	55.1	55.3	55.5	55.7	55.8	56.3	56.3	56.5	56.5	56.5	56.5
54.1	55.9	56.5	56.7	57.6	57.7	58.0	58.3	58.5	58.6	59.1	59.1	59.2	59.2	59.2	59.2
54.4	56.2	56.8	57.0	58.0	58.1	58.3	58.6	58.8	58.9	59.5	59.5	59.6	59.6	59.6	59.6
55.8	57.7	58.3	58.5	59.5	59.6	59.8	60.1	60.3	60.4	61.0	61.0	61.1	61.1	61.1	61.1
57.0	59.1	59.7	59.9	60.9	61.0	61.3	61.7	61.9	62.0	62.6	62.6	62.7	62.7	62.7	62.7
58.9	61.1	61.6	61.8	62.9	63.0	63.3	63.8	64.0	64.2	64.7	64.7	64.8	64.8	64.8	64.8
60.6	63.0	63.7	64.1	65.5	65.6	66.0	66.5	66.7	66.9	67.4	67.4	67.5	67.5	67.5	67.5
61.1	63.5	64.2	64.6	66.0	66.1	66.6	67.0	67.2	67.4	68.0	68.0	68.1	68.1	68.1	68.1
63.5	67.0	68.1	68.5	70.0	70.2	71.5	71.9	72.2	72.4	72.9	72.9	73.0	73.0	73.0	73.0
64.3	68.1	69.1	69.6	71.2	71.4	72.7	73.1	73.3	73.5	74.1	74.1	74.2	74.2	74.2	74.2
65.4	69.5	70.8	71.5	73.2	73.4	74.7	75.2	75.4	75.7	76.2	76.2	76.3	76.3	76.3	76.3
66.6	71.5	72.9	73.8	75.6	76.0	77.5	78.1	78.3	78.6	79.1	79.1	79.2	79.2	79.2	79.2
68.2	74.4	75.9	77.0	78.9	79.4	81.0	81.6	81.8	82.2	82.7	82.7	82.8	82.8	82.8	82.8
68.3	74.8	76.3	77.4	79.4	79.9	81.5	82.2	82.4	82.7	83.2	83.2	83.3	83.3	83.3	83.3
68.5	75.6	77.2	78.4	80.5	81.2	82.9	83.8	84.1	84.4	84.9	84.9	85.2	85.3	85.3	85.3
69.5	76.8	78.5	79.7	81.8	82.5	84.2	85.4	85.8	86.2	86.8	86.8	87.2	87.3	87.3	87.3
69.9	77.8	79.6	80.9	83.2	83.9	85.6	86.8	87.2	87.8	88.4	88.4	88.8	89.2	89.4	89.4
70.1	78.2	79.9	81.2	83.5	84.2	85.9	87.1	87.5	88.4	88.9	88.9	89.4	89.8	89.9	89.9
70.1	78.3	80.0	81.3	83.7	84.5	86.2	87.6	88.1	89.0	89.8	89.8	90.2	90.6	90.8	90.8
70.5	78.9	80.9	82.2	85.2	86.0	87.7	89.5	89.9	90.9	91.7	91.7	92.2	92.6	92.7	92.7
70.6	79.5	81.6	82.9	86.2	87.1	88.8	90.9	91.0	92.3	93.2	93.2	93.8	94.2	94.3	94.3
70.6	79.6	81.9	83.2	86.7	87.5	89.4	91.1	91.6	92.9	94.4	94.4	95.1	95.5	95.6	95.6
70.6	79.9	82.3	83.5	87.2	88.2	90.0	91.7	92.3	94.0	95.6	95.6	96.2	96.7	96.8	96.8
70.6	79.9	82.3	83.5	87.2	88.2	90.1	92.2	92.7	94.4	96.0	96.0	96.7	97.1	97.2	97.2
70.6	79.9	82.3	83.5	87.2	88.2	90.1	92.2	92.7	94.6	96.5	96.5	97.8	98.3	98.5	98.5
70.6	79.9	82.3	83.5	87.2	88.2	90.1	92.2	92.7	94.6	96.5	96.5	98.0	98.4	99.0	99.1
70.6	79.9	82.3	83.5	87.2	88.2	90.1	92.2	92.7	94.6	96.5	96.5	98.0	98.4	99.1	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0900-1100

CEILING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1	43.5	46.6	47.1	47.7	48.5	48.7	49.7	49.9	50.0	50.4	50.4	50.4	50.5	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6		
2	46.9	50.0	50.5	51.3	52.0	52.4	53.8	54.0	54.1	54.5	54.5	54.5	54.5	54.6	54.7	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	
3	47.1	50.3	50.9	51.8	52.4	52.7	54.1	54.3	54.4	54.8	54.8	54.8	54.8	54.9	55.1	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	
4	47.3	50.6	51.2	51.9	52.7	53.0	54.4	54.6	54.7	55.2	55.2	55.2	55.2	55.3	55.4	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6
5	47.8	51.3	51.8	52.6	53.4	53.8	55.2	55.4	55.5	55.9	55.9	55.9	55.9	56.0	56.1	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3
6	48.5	51.9	52.5	53.2	54.1	54.4	55.8	56.0	56.1	56.6	56.6	56.6	56.6	56.7	56.8	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0
7	51.6	55.8	56.3	57.1	58.0	58.4	59.9	60.1	60.2	60.6	60.6	60.6	60.6	60.8	60.9	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
8	52.0	56.2	56.8	57.5	58.4	58.8	60.3	60.5	60.6	61.1	61.1	61.1	61.2	61.3	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5
9	53.3	58.6	59.5	60.2	61.1	61.5	63.0	63.3	63.4	63.9	63.9	63.9	64.0	64.1	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3
10	55.4	61.0	61.8	62.7	63.5	64.0	65.9	65.8	65.9	66.3	66.3	66.3	66.3	66.5	66.6	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
11	56.5	62.7	63.5	64.4	65.4	65.8	67.3	67.6	67.7	68.3	68.3	68.3	68.4	68.5	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7
12	57.4	63.9	64.7	65.6	66.7	67.1	68.7	69.0	69.1	69.8	69.8	69.8	69.9	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
13	58.8	66.3	67.5	68.5	69.8	70.2	72.2	72.5	72.6	73.4	73.4	73.4	73.4	73.7	73.8	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0
14	60.0	67.8	69.0	70.0	71.4	71.9	73.9	74.4	74.5	75.4	75.4	75.4	75.4	75.6	75.7	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9
15	61.3	69.7	70.9	71.8	73.7	74.5	76.6	77.1	77.2	78.1	78.1	78.1	78.1	78.3	78.4	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6
16	61.9	70.3	71.6	73.1	75.2	76.3	78.6	79.2	79.4	80.3	80.3	80.3	80.3	80.5	80.6	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9
17	63.1	72.3	74.1	75.7	78.1	79.4	82.3	82.9	83.1	84.4	84.4	84.4	84.4	84.8	84.9	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3
18	63.4	72.6	74.4	76.0	78.6	79.9	82.9	83.5	83.8	85.1	85.2	85.2	85.2	85.5	85.6	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9	85.9
19	63.7	72.8	74.7	76.5	79.2	81.0	84.0	84.7	84.9	86.5	86.6	86.6	86.6	86.9	87.0	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3
20	64.8	74.2	76.3	78.2	81.1	82.9	85.9	86.7	86.9	88.5	88.6	88.6	88.6	89.0	89.1	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
21	64.9	74.7	77.0	78.8	81.7	83.5	86.7	87.6	87.8	89.6	89.9	89.9	89.9	90.4	90.5	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9
22	65.3	75.5	77.7	79.6	82.8	84.8	88.4	89.4	89.6	91.3	91.6	91.6	91.6	92.4	92.5	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8	92.8
23	65.7	75.9	78.2	80.0	83.3	85.5	89.4	90.3	90.5	92.4	92.8	93.1	93.7	93.8	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1
24	65.9	76.2	78.6	80.5	84.1	86.3	90.2	91.2	91.4	93.2	93.7	94.0	94.6	94.7	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
25	65.9	76.3	78.7	80.6	84.2	86.5	90.3	91.3	91.5	93.7	94.1	94.4	95.1	95.2	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
26	65.9	76.3	78.8	80.8	84.4	86.7	90.6	91.8	92.0	94.3	94.8	95.2	96.2	96.3	96.7	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8
27	65.9	76.3	78.8	80.8	84.4	86.8	90.8	92.0	92.3	94.5	95.2	95.5	96.6	96.7	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1
28	65.9	76.3	78.8	80.8	84.4	86.8	90.9	92.2	92.4	94.6	95.3	95.6	96.7	96.8	97.2	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
29	65.9	76.3	78.8	80.8	84.4	86.8	91.0	92.3	92.5	94.7	95.4	95.7	97.0	97.1	97.8	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
30	65.9	76.3	78.8	80.8	84.4	86.8	91.0	92.3	92.5	94.7	95.4	95.7	97.0	97.1	98.4	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
31	65.9	76.3	78.8	80.8	84.4	86.8	91.0	92.3	92.5	94.7	95.4	95.7	97.0	97.1	98.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1200-1400

	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100
42.0	46.8	48.0	49.4	51.3	51.4	52.4	52.7	52.9	53.0	53.2	53.2	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
45.8	51.3	52.7	54.3	56.2	56.5	57.4	57.7	58.0	58.1	58.4	58.4	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5
45.9	51.5	52.9	54.7	56.7	56.9	57.8	58.2	58.4	58.5	58.8	58.8	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9
46.5	52.0	53.4	55.3	57.2	57.4	58.4	58.7	58.9	59.0	59.4	59.4	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5
47.2	52.8	54.3	56.1	58.1	58.3	59.2	59.6	59.8	59.9	60.2	60.2	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
50.2	57.1	58.8	60.6	62.6	62.9	63.9	64.2	64.4	64.5	64.8	64.8	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
50.4	57.4	59.1	61.0	62.9	63.2	64.2	64.5	64.7	64.8	65.2	65.2	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3
52.7	60.0	61.8	64.0	65.9	66.2	67.2	67.7	68.0	68.1	68.4	68.4	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5
54.1	61.9	63.9	66.0	68.1	68.4	69.4	69.9	70.2	70.4	70.8	70.8	70.9	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
54.9	63.1	65.4	67.7	69.9	70.2	71.2	71.7	72.0	72.3	72.6	72.6	72.7	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
55.7	64.1	66.3	68.7	70.9	71.3	72.4	72.9	73.2	73.4	73.8	73.8	73.9	74.0	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
55.7	64.1	66.3	68.8	71.0	71.4	72.5	73.0	73.3	73.5	73.9	73.9	74.0	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
56.5	65.1	67.6	70.2	73.0	73.4	74.7	75.3	75.6	75.9	76.3	76.3	76.5	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6
57.1	66.1	68.8	71.4	74.2	74.7	76.2	76.8	77.1	77.4	77.8	77.8	78.0	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1
57.4	66.8	69.6	72.2	75.1	75.6	77.1	77.6	78.0	78.3	78.7	78.7	78.8	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
58.1	68.0	71.3	73.7	76.9	77.6	79.2	79.8	80.1	80.5	81.0	81.0	81.3	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4
58.8	69.6	72.9	75.8	79.2	80.2	82.0	82.8	83.1	83.8	84.6	84.6	85.1	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2
58.9	69.9	73.2	76.1	79.6	80.9	82.7	83.4	83.8	84.4	85.3	85.3	85.7	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8
59.4	70.9	74.3	77.4	80.9	82.2	84.1	84.9	85.4	86.1	87.3	87.3	87.8	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0
60.5	72.5	76.2	79.5	83.1	84.4	86.4	87.5	88.1	88.8	90.1	90.1	90.6	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8
60.8	72.9	76.8	80.3	84.0	85.4	87.8	88.9	89.5	90.2	91.6	91.7	92.5	92.6	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7
60.9	73.0	76.9	80.6	84.4	86.0	88.5	89.6	90.1	90.9	92.3	92.4	93.1	93.2	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3
60.9	73.1	77.2	81.1	84.9	86.7	89.6	90.6	91.2	91.9	93.3	93.4	94.4	94.5	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6
60.9	73.4	77.6	81.7	85.6	87.3	90.2	91.3	91.8	92.6	94.0	94.1	95.1	95.2	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3
61.1	73.7	77.8	81.9	85.9	87.6	90.5	91.6	92.2	93.2	94.8	95.1	96.2	96.3	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
61.1	73.8	78.0	82.0	86.0	88.0	90.9	91.9	92.5	93.5	95.2	95.4	96.7	96.9	97.2	97.3	97.3	97.3	97.3	97.3	97.3	97.3
61.1	73.8	78.0	82.0	86.2	88.2	91.1	92.2	92.7	93.8	95.4	95.6	96.9	97.1	97.4	97.5	97.5	97.5	97.5	97.5	97.5	97.5
61.1	73.8	78.0	82.0	86.2	88.2	91.3	92.4	92.9	94.0	95.6	95.8	97.1	97.3	97.6	98.0	98.0	98.0	98.0	98.0	98.0	98.0
61.1	73.8	78.0	82.0	86.2	88.2	91.3	92.4	92.9	94.0	95.6	95.8	97.4	97.6	98.1	98.6	98.6	98.6	98.6	98.6	98.6	98.6
61.1	73.8	78.0	82.0	86.2	88.2	91.3	92.4	92.9	94.0	95.6	95.8	97.4	97.6	98.3	99.5	99.5	99.5	99.5	99.5	99.5	99.5
61.1	73.8	78.0	82.0	86.2	88.2	91.3	92.4	92.9	94.0	95.6	95.8	97.4	97.6	98.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC
727575 GRAND FORKS AFB ND
73-82
PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS
1200-1400

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1700

CEILING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
43.2	48.8	49.8	50.4	51.4	51.5	51.7	51.8	52.0	52.4	52.5	52.5	52.6	52.6	52.7	52.8															
45.8	51.8	53.1	54.0	55.2	55.3	55.6	55.7	55.9	56.2	56.5	56.5	56.6	56.6	56.7	56.8															
45.9	51.9	53.2	54.2	55.4	55.5	55.8	55.9	56.1	56.5	56.7	56.7	56.8	56.8	56.9	57.0															
46.1	52.2	53.4	54.4	55.6	55.7	56.0	56.1	56.3	56.7	56.9	56.9	57.0	57.0	57.1	57.2															
46.8	53.0	54.4	55.5	56.7	56.8	57.1	57.2	57.4	57.7	58.0	58.0	58.1	58.1	58.2	58.3															
47.4	53.7	55.1	56.2	57.4	57.5	57.8	58.0	58.2	58.5	58.7	58.7	58.8	58.8	58.9	59.0															
50.1	57.4	59.4	60.6	61.9	62.0	62.4	62.5	62.7	63.0	63.2	63.2	63.3	63.3	63.4	63.5															
50.4	58.1	60.1	61.4	62.8	62.9	63.4	63.5	63.8	64.1	64.3	64.3	64.4	64.4	64.5	64.6															
53.4	62.2	64.3	65.8	67.2	67.3	67.8	68.0	68.2	68.5	68.7	68.7	68.8	68.8	68.9	69.0															
54.7	63.9	66.0	67.6	69.0	69.1	69.8	70.2	70.4	70.9	71.1	71.1	71.3	71.3	71.4	71.5															
56.3	65.6	67.7	69.4	70.9	71.0	71.6	72.0	72.3	72.7	72.9	72.9	73.1	73.1	73.2	73.3															
57.1	66.7	69.0	70.6	72.3	72.5	73.1	73.5	73.8	74.2	74.4	74.4	74.6	74.6	74.7	74.8															
57.1	66.7	69.0	70.6	72.3	72.5	73.1	73.5	73.8	74.2	74.4	74.4	74.6	74.6	74.7	74.8															
58.0	68.3	70.6	72.7	74.7	75.2	76.2	76.8	77.0	77.6	77.8	77.8	78.1	78.1	78.2	78.3															
58.2	68.5	70.9	73.0	75.1	75.5	76.6	77.1	77.3	78.0	78.2	78.2	78.4	78.4	78.5	78.6															
59.1	69.7	72.2	74.3	76.6	77.0	78.4	79.0	79.2	79.9	80.1	80.1	80.3	80.3	80.4	80.5															
59.6	70.6	73.1	75.4	77.6	78.1	79.7	80.5	80.8	81.5	81.7	81.7	82.0	82.0	82.2	82.3															
60.6	71.9	74.4	77.1	79.5	80.1	81.8	82.9	83.1	84.1	84.3	84.3	84.6	84.6	84.7	84.8															
61.1	72.6	75.2	77.8	80.3	81.0	82.7	83.8	84.0	84.9	85.2	85.2	85.5	85.5	85.6	85.7															
61.6	73.7	76.3	79.5	82.6	83.4	85.3	86.5	86.7	87.7	88.1	88.1	88.4	88.4	88.5	88.6															
62.2	74.8	77.6	81.0	84.2	85.4	87.2	88.4	88.6	89.9	90.2	90.5	90.9	90.9	91.0	91.1															
62.5	75.4	78.2	81.9	85.2	86.5	88.6	89.8	90.0	91.4	91.8	92.2	92.5	92.5	92.8	92.9															
62.5	75.4	78.2	82.2	85.4	86.7	88.9	90.1	90.3	91.7	92.2	92.5	92.8	92.8	93.1	93.2															
62.5	75.7	78.8	82.8	86.0	87.3	89.6	90.9	91.1	92.8	93.4	93.8	94.1	94.1	94.4	94.5															
62.5	75.8	79.0	83.3	86.6	87.8	90.1	91.4	91.6	93.3	94.0	94.3	94.6	94.6	94.9	95.1															
62.5	76.0	79.2	83.8	87.0	88.3	91.0	92.5	92.8	94.6	95.4	95.9	96.5	96.5	96.8	96.9															
62.5	76.0	79.2	83.8	87.2	88.5	91.2	92.7	93.0	95.1	95.8	96.3	96.9	97.0	97.6	97.7															
62.5	76.0	79.2	83.8	87.2	88.5	91.2	92.8	93.1	95.2	96.0	96.7	97.2	97.3	98.0	98.1															
62.5	76.0	79.2	83.8	87.2	88.5	91.2	92.8	93.1	95.2	96.2	96.9	97.4	97.5	98.2	98.5															
62.5	76.0	79.2	83.8	87.2	88.5	91.2	92.8	93.1	95.2	96.2	96.9	97.5	97.6	98.4	99.0															
62.5	76.0	79.2	83.8	87.2	88.5	91.2	92.8	93.1	95.2	96.2	96.9	97.5	97.6	98.4	99.4															
62.5	76.0	79.2	83.8	87.2	88.5	91.2	92.8	93.1	95.2	96.2	96.9	97.5	97.6	98.4	100.0															

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS.

1800-2000

VISIBILITY - STATUTE MILES																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0-100	46.3	48.7	49.0	49.0	49.4	49.4	49.6	49.8	49.9	50.1	50.1	50.1	50.1	50.3	50.3	50.3
100-200	48.6	51.1	51.8	51.9	52.3	52.3	52.5	52.7	52.8	53.0	53.0	53.0	53.0	53.2	53.2	53.2
200-300	48.9	51.4	52.2	52.3	52.6	52.6	52.8	53.0	53.1	53.3	53.3	53.3	53.3	53.5	53.5	53.5
300-400	49.0	51.5	52.3	52.4	52.7	52.7	52.9	53.1	53.2	53.4	53.4	53.4	53.4	53.7	53.7	53.7
400-500	49.4	51.8	52.6	52.7	53.0	53.0	53.2	53.4	53.5	53.8	53.8	53.8	53.8	54.7	54.0	54.0
500-600	50.9	53.4	54.2	54.3	54.6	54.6	54.8	55.1	55.2	55.4	55.4	55.4	55.4	55.6	55.6	55.6
600-700	53.8	56.7	57.8	58.2	58.5	58.5	58.7	58.9	59.0	59.2	59.2	59.2	59.2	59.5	59.5	59.5
700-800	54.9	58.0	59.1	59.7	60.0	60.0	60.5	60.8	60.9	61.1	61.1	61.1	61.1	61.3	61.3	61.3
800-900	57.5	60.9	62.4	62.9	63.4	63.4	64.0	64.2	64.3	64.5	64.5	64.5	64.5	64.7	64.7	64.7
900-1000	58.7	62.2	63.7	64.2	64.8	64.8	65.5	65.7	65.8	66.0	66.0	66.0	66.0	66.2	66.2	66.2
1000-1100	60.4	64.1	65.7	66.2	67.0	67.0	67.6	67.8	68.0	68.2	68.2	68.2	68.2	68.4	68.4	68.4
1100-1200	61.5	65.5	67.5	68.4	69.7	69.7	70.3	70.8	70.9	71.1	71.1	71.1	71.1	71.3	71.3	71.3
1200-1300	61.6	65.7	67.7	68.6	70.1	70.1	70.8	71.2	71.3	71.5	71.5	71.5	71.5	71.7	71.7	71.7
1300-1400	63.3	68.0	70.1	71.4	73.0	73.1	74.3	75.1	75.2	75.6	75.6	75.6	75.6	75.8	75.8	75.8
1400-1500	63.8	68.4	70.6	71.9	73.5	73.7	74.9	75.7	75.8	76.2	76.2	76.2	76.2	76.5	76.5	76.5
1500-1600	64.7	69.6	72.0	73.5	75.5	75.9	77.5	78.3	78.4	78.8	78.8	78.8	78.8	79.0	79.0	79.0
1600-1700	65.4	70.5	73.4	74.9	77.4	78.0	79.7	80.4	80.5	81.1	81.1	81.1	81.1	81.3	81.3	81.3
1700-1800	66.8	72.6	75.7	77.3	79.8	80.3	82.0	83.2	83.3	84.1	84.1	84.1	84.1	84.3	84.3	84.3
1800-1900	67.5	73.4	76.7	78.4	80.9	81.4	83.2	84.5	84.6	85.4	85.4	85.4	85.4	85.6	85.6	85.6
1900-2000	68.2	74.4	78.1	80.0	82.8	83.3	85.6	87.0	87.1	88.0	88.0	88.0	88.0	88.2	88.2	88.2
2000-2100	69.0	76.1	79.8	82.0	85.2	85.7	88.3	89.8	89.9	91.1	91.3	91.3	91.3	91.6	91.6	91.6
2100-2200	69.7	77.1	80.9	83.1	86.7	87.2	89.9	91.6	91.7	93.0	93.2	93.2	93.2	93.7	93.8	93.8
2200-2300	69.8	77.2	81.0	83.3	86.9	87.6	90.3	92.2	92.4	93.8	94.0	94.0	94.0	94.4	94.5	94.5
2300-2400	70.0	77.7	81.6	84.1	87.6	88.4	91.1	92.9	93.1	94.8	95.1	95.1	95.1	95.6	95.7	95.7
2400-2500	70.0	77.7	81.6	84.2	87.8	88.6	91.5	93.3	93.5	95.3	95.5	95.5	95.5	96.0	96.1	96.1
2500-2600	70.0	77.7	82.0	84.6	88.3	89.1	92.0	94.0	94.2	95.9	96.1	96.1	96.1	96.7	96.8	96.8
2600-2700	70.0	77.7	82.0	84.7	88.4	89.2	92.2	94.1	94.3	96.0	96.2	96.2	96.2	96.9	97.0	97.0
2700-2800	70.1	77.8	82.2	84.8	88.5	89.4	92.5	94.4	94.7	96.6	96.9	96.9	96.9	97.0	97.5	97.6
2800-2900	70.1	77.8	82.2	84.8	88.5	89.4	92.6	94.5	95.1	97.0	97.3	97.3	97.3	98.1	98.4	98.4
2900-3000	70.1	77.8	82.2	84.8	88.5	89.4	92.6	94.5	95.2	97.1	97.4	97.4	97.4	98.2	98.8	98.8
3000-3100	70.1	77.8	82.2	84.8	88.5	89.4	92.6	94.5	95.2	97.1	97.4	97.4	97.4	98.2	98.8	99.4
3100-3200	70.1	77.8	82.2	84.8	88.5	89.4	92.6	94.5	95.2	97.1	97.4	97.4	97.4	98.2	98.8	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14-5 OL A. PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JAN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

49.1	52.2	52.7	53.0	53.5	53.6	53.7	53.9	54.1	54.1	54.3	54.3	54.3	54.4	54.4	54.4
50.7	54.0	54.8	55.0	55.5	55.7	55.8	56.0	56.2	56.2	56.3	56.3	56.5	56.6	56.6	56.6
51.1	54.5	55.2	55.4	56.0	56.1	56.2	56.4	56.6	56.6	56.7	56.7	56.9	57.1	57.1	57.1
51.1	54.5	55.2	55.4	56.0	56.1	56.2	56.4	56.6	56.6	56.7	56.7	56.9	57.1	57.1	57.1
51.7	55.0	55.8	56.0	56.5	56.6	56.7	56.9	57.2	57.2	57.3	57.3	57.5	57.6	57.6	57.6
52.5	55.9	56.6	56.8	57.4	57.5	57.6	57.8	58.0	58.0	58.1	58.1	58.3	58.4	58.4	58.4
54.9	58.2	59.4	59.7	60.4	60.5	60.6	60.8	61.0	61.0	61.1	61.1	61.4	61.5	61.5	61.5
55.8	59.2	60.5	60.8	61.5	61.6	61.7	61.9	62.1	62.1	62.2	62.2	62.4	62.5	62.5	62.5
57.2	61.0	62.4	62.8	63.4	63.5	63.6	63.8	64.0	64.0	64.2	64.2	64.4	64.5	64.5	64.5
58.2	62.2	63.6	64.0	64.7	64.8	64.9	65.1	65.3	65.3	65.4	65.4	65.7	65.8	65.8	65.8
59.4	63.8	65.0	65.4	66.3	66.4	66.5	66.7	67.0	67.0	67.1	67.1	67.3	67.4	67.4	67.4
61.0	65.9	67.7	68.5	69.5	69.6	69.8	70.0	70.2	70.3	70.4	70.4	70.6	70.7	70.7	70.7
61.5	66.4	68.4	69.1	70.3	70.4	70.5	70.7	70.9	71.0	71.2	71.2	71.4	71.5	71.5	71.5
63.5	68.9	71.0	72.0	74.1	74.4	74.7	75.0	75.2	75.3	75.5	75.5	75.7	75.8	75.8	75.8
63.9	69.3	71.5	72.4	74.8	75.1	75.5	75.8	76.0	76.1	76.2	76.2	76.4	76.5	76.5	76.5
64.4	70.2	72.4	73.5	76.3	76.6	77.0	77.4	77.6	77.8	77.9	77.9	78.1	78.3	78.3	78.3
64.9	71.5	73.7	74.9	78.0	78.8	79.2	79.7	79.9	80.2	80.3	80.3	80.5	80.6	80.6	80.6
67.6	74.6	77.1	78.3	81.4	82.2	82.7	83.3	83.5	84.1	84.2	84.2	84.4	84.5	84.5	84.5
68.0	75.0	77.5	78.7	81.8	82.7	83.1	83.7	84.0	84.5	84.6	84.6	84.8	84.9	84.9	84.9
69.1	76.6	79.8	81.1	84.3	85.1	86.0	86.7	86.9	87.5	87.6	87.6	87.8	87.9	88.1	88.2
69.6	77.5	80.9	82.6	86.0	86.9	88.3	89.2	89.5	90.2	90.4	90.4	90.7	90.9	91.0	91.1
70.0	78.3	81.8	83.4	87.1	88.1	89.5	90.7	91.0	91.7	91.9	91.9	92.4	92.5	92.6	92.7
70.2	78.5	82.1	83.7	87.5	88.5	89.9	91.3	91.5	92.2	92.5	92.5	92.9	93.0	93.1	93.2
70.5	78.8	82.6	84.2	87.9	88.9	90.3	91.8	92.0	92.8	93.0	93.0	93.4	93.5	93.6	93.8
70.7	79.1	83.0	84.7	88.5	89.5	90.9	92.5	92.7	93.4	93.6	93.6	94.1	94.2	94.3	94.4
70.9	79.4	83.3	85.0	88.9	89.9	91.5	93.2	93.5	94.5	94.7	94.7	95.2	95.3	95.4	95.5
71.0	79.7	83.5	85.4	89.2	90.3	92.2	94.1	94.4	95.6	95.8	95.8	96.2	96.4	96.6	96.7
71.2	79.9	83.7	85.6	89.7	90.7	92.8	94.6	94.9	96.2	96.4	96.4	96.9	97.1	97.2	97.3
71.2	80.0	83.9	85.8	90.0	91.1	93.1	94.9	95.3	96.7	96.9	96.9	97.5	97.7	97.8	98.0
71.2	80.0	83.9	85.8	90.0	91.1	93.1	94.9	95.4	97.1	97.3	97.3	98.1	98.3	98.6	99.0
71.2	80.0	83.9	85.8	90.0	91.1	93.1	94.9	95.4	97.2	97.4	97.4	98.2	98.4	98.7	99.7
71.2	80.0	83.9	85.8	90.0	91.1	93.1	94.9	95.4	97.2	97.4	97.4	98.2	98.4	98.7	100.0

TOTAL NUMBER OF OBSERVATIONS 929

USAF ETAC 10-14-5 (DL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

CEILING VERSUS VISIBILITY

73-82

JAN

ALL

TOTAL NUMBER OF OBSERVATIONS 7436

USAF ETAC 0-14.5 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-0200

47.3	51.1	51.1	51.4	52.2	52.4	52.5	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.8
48.6	52.5	52.5	52.8	53.7	53.8	53.9	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.3
48.6	52.6	52.6	53.0	53.8	53.9	54.0	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.4
48.7	52.7	52.7	53.1	53.9	54.0	54.1	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.5
49.6	53.3	53.9	54.3	55.1	55.2	55.3	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.7
50.5	54.7	54.7	55.1	55.9	56.0	56.1	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.5
54.1	58.5	58.9	59.2	60.0	60.2	60.3	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.6
55.1	59.7	60.2	60.5	61.3	61.5	61.6	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.9
56.7	61.3	62.2	62.5	63.5	63.6	63.7	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8	64.1
57.2	61.9	62.8	63.1	64.1	64.2	64.3	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.7
58.3	63.0	63.8	64.2	65.2	65.4	65.5	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.8
60.2	65.2	66.1	66.4	67.5	68.1	68.2	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.6
60.8	66.0	66.8	67.1	68.2	68.8	68.9	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.3
62.9	68.8	69.7	70.2	71.6	72.3	72.6	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	73.0
63.9	70.3	71.4	72.1	73.5	74.2	74.5	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.9
65.7	73.2	74.5	75.2	76.7	77.5	77.8	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.4
66.9	75.5	77.0	77.8	79.8	80.6	80.9	81.3	81.7	81.7	81.7	81.7	81.8	81.8	81.8	81.8	82.0
69.6	79.1	81.7	82.3	84.6	85.5	85.9	86.9	87.2	87.2	87.4	87.5	87.5	87.5	87.5	87.5	87.7
69.9	79.3	81.2	82.5	85.0	85.8	86.3	87.2	87.6	87.6	87.7	87.8	87.8	87.8	87.8	87.8	88.1
70.4	79.9	81.8	83.2	85.9	86.8	87.2	88.5	89.0	89.2	89.4	89.5	89.5	89.5	89.5	89.5	89.7
70.8	80.3	82.3	83.7	86.4	87.5	88.2	89.7	90.2	90.4	90.5	90.7	90.8	90.8	90.8	90.8	91.0
71.4	81.1	83.3	85.0	87.7	88.8	89.6	91.3	92.0	92.3	92.6	92.7	93.5	93.5	93.5	93.5	93.7
71.4	81.2	83.6	85.2	87.9	89.0	90.0	91.6	92.4	92.8	93.0	93.1	94.0	94.0	94.0	94.0	94.2
71.7	82.0	84.4	86.1	88.8	89.8	90.9	92.9	94.1	94.7	94.9	95.0	95.9	95.9	95.9	95.9	96.1
71.9	82.3	84.8	86.5	89.2	90.3	91.4	93.4	94.6	95.2	95.4	95.5	96.3	96.3	96.3	96.3	96.6
71.9	82.4	85.0	86.9	89.6	90.8	91.8	93.9	95.0	95.6	95.9	96.0	97.0	97.2	97.2	97.2	97.4
71.9	82.4	85.1	87.0	89.7	90.9	92.0	94.0	95.2	95.9	96.1	96.2	97.3	97.4	97.4	97.4	97.6
71.9	82.5	85.5	87.7	90.5	91.7	92.8	94.9	96.1	96.8	97.0	97.2	98.2	98.3	98.3	98.3	98.6
71.9	82.5	85.5	87.7	90.5	91.7	93.1	95.3	96.7	97.4	97.6	97.8	98.9	99.1	99.3	99.5	
71.9	82.5	85.5	87.8	90.7	91.8	93.4	95.5	96.9	97.6	97.9	98.0	99.2	99.4	99.6	99.9	
71.9	82.5	85.5	87.8	90.7	91.8	93.4	95.5	96.9	97.6	97.9	98.0	99.2	99.5	99.8	100.0	
71.9	82.5	85.5	87.8	90.7	91.8	93.4	95.5	96.9	97.6	97.9	98.0	99.2	99.5	99.8	100.0	

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

3300-3500

46.3	49.5	49.6	49.9	50.9	51.2	51.2	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.7
48.7	52.0	52.1	52.4	53.8	54.0	54.0	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.5
48.7	52.0	52.1	52.6	54.0	54.3	54.3	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.7
48.7	52.0	52.1	52.6	54.0	54.3	54.3	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.7
49.3	52.6	52.7	53.2	54.6	54.8	54.8	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.3
50.6	54.0	54.1	54.6	56.0	56.3	56.3	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.7
53.2	57.1	57.2	57.8	59.2	59.5	59.5	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.9
54.0	58.0	58.2	58.7	60.2	60.4	60.4	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.8	60.9
55.3	59.9	60.3	61.1	62.6	62.9	62.9	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.4
56.4	60.6	61.0	61.8	63.4	63.6	63.6	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	64.1
57.8	62.3	62.8	63.8	65.4	65.6	65.6	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.1
59.7	64.4	64.9	66.0	67.6	68.2	68.2	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.7
59.9	64.7	65.1	66.2	67.8	68.4	68.4	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.9
62.9	68.0	68.6	69.9	71.6	72.2	72.2	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.7
63.7	69.0	70.2	71.6	73.4	74.0	74.0	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.3	74.5
65.2	71.5	72.7	74.5	76.4	77.0	77.0	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.4
67.0	73.8	75.1	77.1	79.1	79.8	79.9	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.5	80.5	80.6
69.7	76.5	78.1	80.5	82.9	83.6	84.2	84.6	84.8	84.8	84.8	84.8	84.8	84.8	84.9	84.9	85.0
69.7	76.8	78.5	80.9	83.5	84.2	84.8	85.3	85.5	85.5	85.5	85.5	85.5	85.5	85.6	85.6	85.7
69.7	78.1	79.9	82.3	85.1	85.8	86.6	87.4	87.5	87.5	87.5	87.5	87.5	87.5	87.6	87.6	87.7
70.3	79.2	81.0	83.3	86.2	86.9	88.2	88.9	89.0	89.0	89.0	89.0	89.0	89.1	89.2	89.2	89.4
70.9	80.7	82.6	85.0	88.1	88.8	90.2	90.9	91.0	91.0	91.0	91.1	91.1	91.3	91.4	91.4	91.5
70.9	80.7	82.6	85.0	88.1	88.8	90.2	91.3	91.5	91.5	91.6	91.6	91.7	91.8	91.8	91.8	92.0
71.3	81.4	83.7	86.1	89.2	90.1	91.6	92.7	92.9	92.9	93.0	93.0	93.4	93.7	93.7	93.7	93.9
71.4	82.4	84.6	87.1	90.3	91.1	92.7	93.9	94.4	94.4	94.6	94.6	94.9	95.3	95.3	95.3	95.4
71.4	82.7	85.3	87.8	91.0	91.8	93.4	94.6	95.2	95.2	95.3	95.5	95.9	96.2	96.2	96.3	96.3
71.5	83.3	85.9	88.4	91.6	92.4	94.1	95.4	96.0	96.1	96.2	96.5	96.8	97.2	97.2	97.3	97.3
71.5	83.3	86.1	88.8	92.0	92.8	94.8	96.1	96.7	96.9	97.0	97.3	97.6	98.0	98.0	98.1	98.1
71.5	83.5	86.2	88.9	92.1	92.9	94.9	96.2	97.0	97.4	97.5	97.8	98.1	98.5	98.7	98.8	98.8
71.5	83.5	86.2	88.9	92.1	92.9	94.9	96.2	97.3	97.6	97.8	98.0	98.3	98.7	99.3	99.5	99.5
71.5	83.5	86.2	88.9	92.1	92.9	94.9	96.2	97.3	97.9	98.1	98.3	98.8	99.2	99.8	100.0	100.0
71.5	83.5	86.2	88.9	92.1	92.9	94.9	96.2	97.3	97.9	98.1	98.3	98.8	99.2	99.8	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 896

USAF ETAC 727575 73-82 FEB 73

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0900-1100

44.7	47.5	47.1	49.6	50.6	50.7	50.7	50.9	50.9	51.4	51.4	51.4	51.5	51.7	51.7	51.9
47.8	50.6	52.1	52.8	53.8	53.9	53.9	54.3	54.4	54.8	54.8	54.8	55.2	55.3	55.3	55.6
48.2	51.1	52.6	53.4	54.4	54.5	54.5	54.8	55.7	55.4	55.4	55.4	55.8	55.9	55.9	56.1
48.5	51.3	52.3	53.7	54.6	54.7	54.7	55.1	55.2	55.7	55.7	55.7	56.3	56.1	56.1	56.4
48.9	52.0	53.5	54.4	55.3	55.4	55.4	55.8	55.9	56.4	56.4	56.4	56.7	56.9	56.9	57.1
49.8	53.2	54.8	55.7	56.6	56.7	56.7	57.1	57.2	57.7	57.7	57.7	58.3	58.2	58.2	58.4
51.3	55.3	57.1	58.0	59.0	59.1	59.1	59.5	59.6	60.0	60.0	60.0	60.4	60.5	60.5	60.8
52.2	56.4	58.2	59.1	60.0	60.2	60.2	60.5	60.6	61.1	61.1	61.1	61.5	61.6	61.6	61.8
53.4	58.3	60.2	61.1	62.2	62.3	62.3	62.6	62.8	63.2	63.2	63.2	63.6	63.7	63.7	63.9
54.0	59.5	61.3	62.5	63.6	63.7	63.8	64.3	64.4	64.9	64.9	64.9	65.2	65.4	65.4	65.6
54.7	60.2	62.1	63.2	64.3	64.4	64.5	65.0	65.1	65.6	65.6	65.6	66.0	66.1	66.1	66.3
55.6	62.2	64.2	65.7	67.1	67.3	67.8	68.3	68.4	68.9	68.9	68.9	69.3	69.4	69.4	69.6
57.3	63.0	65.1	66.7	68.1	68.3	68.9	69.4	69.5	70.0	70.0	70.0	70.3	70.4	70.4	70.7
54.2	65.0	67.3	68.8	70.8	71.0	71.9	72.3	72.5	73.0	73.0	73.0	73.4	73.5	73.5	73.8
59.6	66.5	68.8	70.4	72.5	72.7	73.9	74.3	74.5	75.1	75.1	75.1	75.4	75.5	75.5	75.8
61.6	69.3	72.0	73.6	76.1	76.5	77.7	78.3	78.5	79.1	79.1	79.2	79.6	79.7	79.7	79.9
62.3	70.4	73.4	75.2	78.0	78.5	79.8	80.5	80.9	81.4	81.6	81.7	82.0	82.2	82.2	82.4
63.1	71.9	75.2	77.2	80.7	81.7	83.2	84.0	84.4	85.2	85.3	85.5	85.9	86.1	86.1	86.3
63.4	72.3	75.8	77.8	81.3	82.3	83.8	84.6	85.0	85.8	85.9	86.1	86.5	86.6	86.6	86.9
64.4	74.2	77.9	80.0	83.9	84.9	86.5	87.7	88.1	88.9	89.0	89.1	89.6	89.7	89.7	90.0
64.7	74.6	78.5	80.6	84.5	85.5	87.4	88.7	89.0	90.2	90.4	90.5	91.0	91.1	91.1	91.4
65.1	75.3	79.4	81.7	85.7	86.8	88.8	90.1	90.4	91.8	92.2	92.3	92.8	92.9	92.9	93.1
65.4	75.5	79.8	82.0	86.1	87.1	89.1	90.7	91.0	92.6	92.9	93.0	93.5	93.6	93.6	93.9
65.5	75.7	79.9	82.2	86.2	87.5	89.6	91.4	92.0	93.5	94.3	94.4	94.9	95.0	95.0	95.3
65.5	75.7	79.9	82.3	86.5	87.8	90.1	92.0	92.6	94.1	94.9	95.0	95.5	95.6	95.6	95.9
65.5	75.7	79.9	82.3	86.9	88.2	90.7	92.6	93.3	95.2	96.1	96.2	96.7	96.8	96.8	97.0
65.5	75.8	80.0	82.4	87.0	88.4	90.9	92.8	93.5	95.5	96.7	96.8	97.3	97.4	97.4	97.6
65.5	75.8	80.1	82.5	87.1	88.8	91.6	93.6	94.7	96.7	97.9	98.0	98.7	98.8	98.8	99.1
65.5	75.8	80.1	82.5	87.1	88.8	91.7	93.7	94.9	96.9	98.1	98.2	98.9	99.1	99.1	99.3
65.5	75.8	80.1	82.5	87.1	88.8	91.7	93.7	94.9	97.0	98.2	98.3	99.3	99.4	99.4	99.6
65.5	75.8	80.1	82.5	87.1	88.8	91.7	93.7	94.9	97.0	98.2	98.3	99.4	99.5	99.8	100.0
65.5	75.8	80.1	82.5	87.1	88.8	91.7	93.7	94.9	97.0	98.2	98.3	99.4	99.5	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 896

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1720

47.2	44.7	46.5	47.0	47.9	48.0	48.2	48.5	48.5	48.7	48.7	48.7	48.8	48.6	48.8	48.8
45.7	50.6	52.4	53.1	54.1	54.3	54.5	54.7	54.7	55.2	55.2	55.2	55.3	55.3	55.3	55.3
46.2	51.1	53.1	53.8	55.0	55.1	55.3	55.6	55.6	56.0	56.0	56.0	56.1	56.1	56.1	56.1
45.6	51.4	53.4	54.1	55.3	55.4	55.8	56.0	56.1	56.5	56.5	56.5	56.6	56.6	56.6	56.6
46.9	51.8	53.8	54.5	55.7	55.8	56.1	56.4	56.4	56.9	56.9	56.9	57.0	57.0	57.0	57.0
49.2	54.1	56.1	56.9	58.0	58.2	58.6	58.9	59.1	59.6	59.6	59.6	59.7	59.7	59.7	59.7
52.0	57.6	59.7	60.6	62.2	62.3	62.8	63.0	63.2	63.7	63.7	63.7	63.8	63.8	63.8	63.8
52.4	58.0	60.2	61.1	62.6	62.8	63.2	63.5	63.7	64.2	64.2	64.2	64.3	64.3	64.3	64.3
53.9	59.8	62.1	63.1	64.8	64.9	65.4	65.6	65.8	66.3	66.3	66.3	66.4	66.4	66.4	66.4
55.4	61.3	63.5	64.8	66.4	66.5	67.0	67.3	67.5	68.0	68.0	68.0	68.1	68.1	68.1	68.1
55.9	62.1	64.4	65.7	67.4	67.5	68.0	68.2	68.4	68.9	68.9	68.9	69.0	69.0	69.0	69.0
56.5	62.9	65.2	66.8	68.4	68.6	69.4	69.7	70.0	70.4	70.4	70.4	70.6	70.6	70.6	70.6
57.1	63.6	66.0	67.8	69.7	69.9	70.7	71.0	71.3	71.7	71.7	71.7	71.9	71.9	71.9	71.9
57.9	65.0	67.8	69.7	71.9	72.0	72.9	73.3	73.5	74.2	74.2	74.2	74.6	74.6	74.6	74.6
58.3	65.8	68.7	70.6	73.0	73.4	74.3	74.7	74.9	75.7	75.7	75.7	76.0	76.0	76.0	76.0
59.0	67.4	70.7	72.8	75.0	76.2	77.4	77.8	78.0	78.7	78.7	78.7	79.1	79.1	79.1	79.1
60.0	68.9	72.8	75.2	78.3	79.1	80.3	80.7	81.0	81.8	81.8	81.8	82.2	82.2	82.2	82.2
61.3	70.9	75.4	78.0	81.1	82.0	83.2	83.9	84.2	85.0	85.0	85.0	85.5	85.5	85.5	85.5
61.6	71.5	76.7	78.6	81.7	82.6	83.8	84.5	84.8	85.6	85.6	85.6	86.1	86.1	86.1	86.1
62.3	73.2	77.8	80.5	83.7	84.8	86.1	87.2	87.5	88.3	88.3	88.3	88.8	88.8	88.8	88.8
62.8	74.6	79.4	82.3	85.5	86.5	88.2	89.5	89.7	90.8	91.1	91.1	91.6	91.6	91.7	91.7
63.2	75.5	80.5	83.3	86.9	87.9	89.8	91.1	91.4	92.7	93.0	93.0	93.7	93.7	93.9	93.9
63.2	75.5	80.5	83.6	87.1	88.5	90.4	91.8	92.1	93.5	94.0	94.0	94.7	94.7	94.8	94.8
63.6	75.9	80.9	83.9	87.5	88.9	90.8	92.6	92.9	94.3	94.9	94.9	96.0	96.0	96.1	96.1
63.6	76.1	81.1	84.2	87.7	89.1	91.1	92.9	93.3	94.7	95.3	95.4	96.5	96.5	96.6	96.6
63.6	76.1	81.1	84.3	87.8	89.2	91.3	93.0	93.6	95.2	95.7	95.9	96.9	96.9	97.2	97.2
63.6	76.2	81.3	84.5	88.1	89.6	91.8	93.9	94.4	96.0	96.6	96.7	97.8	97.8	98.3	98.5
63.6	76.2	81.3	84.5	88.1	89.6	91.8	93.9	94.4	96.0	96.6	96.7	98.0	98.0	98.6	98.7
63.6	76.2	81.3	84.5	88.2	89.7	92.0	94.1	94.7	96.8	97.4	97.6	99.1	99.1	99.6	99.8
63.6	76.2	81.3	84.5	88.2	89.7	92.0	94.1	94.7	96.8	97.4	97.6	99.1	99.1	99.6	99.8
63.6	76.2	81.3	84.5	88.2	89.7	92.0	94.1	94.7	96.8	97.4	97.6	99.1	99.1	99.9	100.0
63.6	76.2	81.3	84.5	88.2	89.7	92.0	94.1	94.7	96.8	97.4	97.6	99.1	99.1	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-87

FE3

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1800-2000

44.9	49.9	51.2	51.4	52.0	52.0	52.4	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
47.8	53.3	54.6	54.8	55.7	55.7	56.0	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3
48.1	53.7	55.0	55.2	56.0	56.0	56.4	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6
48.2	53.8	55.1	55.3	56.1	56.1	56.5	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
49.2	54.7	56.0	56.3	57.1	57.1	57.4	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7	57.7
50.7	56.3	57.6	57.8	58.7	58.7	59.1	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5
55.0	61.2	62.6	62.9	64.2	64.2	64.5	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
55.3	61.8	63.2	63.5	64.8	64.8	65.1	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6
57.3	64.7	66.1	66.7	68.0	68.0	68.3	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
58.3	65.6	67.0	67.6	68.9	68.9	69.3	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7
59.2	66.5	68.0	68.8	70.1	70.2	70.6	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
60.3	67.8	69.7	70.7	72.0	72.1	72.8	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4
61.3	69.1	71.2	72.1	73.4	73.5	74.2	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8
62.4	70.4	72.6	73.5	74.8	74.9	75.7	76.5	76.5	76.7	76.7	76.7	76.7	76.7	76.7	76.7
62.9	71.3	73.4	74.5	76.0	76.1	76.8	77.7	77.7	78.0	78.0	78.0	78.0	78.0	78.0	78.0
63.9	73.3	75.7	77.2	79.8	80.0	80.7	81.7	81.7	82.0	82.0	82.0	82.0	82.0	82.0	82.0
65.0	74.6	77.4	79.1	81.9	82.6	83.5	84.4	84.4	84.8	84.8	84.8	84.8	84.8	84.8	84.8
66.3	76.5	79.9	81.6	84.9	85.7	87.0	87.9	88.1	88.4	88.4	88.4	88.5	88.5	88.5	88.5
66.4	76.8	80.3	81.9	85.2	86.1	87.4	88.3	88.4	88.8	88.8	88.8	88.9	88.9	88.9	88.9
66.9	77.4	80.9	82.6	85.9	87.0	88.5	89.8	90.0	90.4	90.4	90.4	90.5	90.5	90.5	90.5
67.6	78.1	81.9	83.7	87.1	88.2	89.8	91.1	91.3	92.3	92.3	92.3	92.4	92.4	92.4	92.4
68.3	79.3	83.5	85.3	88.8	89.8	91.5	92.9	93.0	94.1	94.1	94.1	94.2	94.2	94.2	94.2
68.3	79.4	83.7	85.6	89.1	90.2	91.8	93.3	93.4	94.4	94.4	94.4	94.6	94.6	94.6	94.6
68.6	79.7	84.7	85.9	89.5	90.5	92.2	94.0	94.2	95.3	95.6	95.6	95.7	95.7	95.7	95.7
68.8	80.0	84.4	86.4	90.0	91.0	92.7	94.4	94.7	95.7	96.1	96.1	96.2	96.2	96.2	96.2
68.8	80.1	84.6	86.6	90.2	91.6	93.3	95.2	95.7	96.8	97.3	97.3	97.4	97.4	97.4	97.4
68.8	80.3	84.8	86.8	90.4	92.2	94.0	95.9	96.6	97.8	98.3	98.3	98.7	98.7	98.9	98.9
68.9	80.4	84.9	86.9	90.5	92.3	94.3	96.2	96.9	98.1	98.7	98.7	99.1	99.1	99.3	99.3
68.9	80.4	85.0	87.1	90.8	92.6	94.6	96.8	97.5	98.8	99.4	99.4	99.8	99.8	100.0	100.0
68.9	80.4	85.0	87.1	90.8	92.6	94.6	96.8	97.5	98.8	99.4	99.4	99.8	99.8	100.0	100.0
68.9	80.4	85.0	87.1	90.8	92.6	94.6	96.8	97.5	98.8	99.4	99.4	99.8	99.8	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORMS AFB ND

73-82

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2122-2320

47.3	50.8	51.7	51.9	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7
49.4	53.2	54.1	54.4	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3
49.4	53.2	54.1	54.4	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3	55.3
49.5	53.3	54.3	54.5	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4
50.1	53.9	54.8	55.1	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
50.9	54.7	55.7	56.0	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1
56.4	60.9	62.1	62.4	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6
56.9	61.7	62.9	63.2	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4
58.6	63.8	65.1	65.6	67.0	67.0	67.0	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
59.5	64.9	66.3	67.0	68.4	68.4	68.4	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6
60.5	66.1	67.5	68.2	69.7	69.7	69.7	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9
61.8	67.6	69.1	69.9	71.4	71.4	71.6	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7
62.8	68.6	70.2	70.9	72.5	72.5	72.7	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
64.7	70.9	72.8	73.6	75.5	75.5	75.8	76.0	76.0	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2
66.0	72.4	74.5	75.4	77.7	77.8	78.0	78.3	78.3	78.5	78.5	78.5	78.5	78.5	78.5	78.5	78.5	78.5
67.6	75.1	77.0	78.1	80.7	80.9	81.2	81.4	81.4	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
68.9	77.3	79.4	80.6	83.9	84.0	84.5	84.9	84.9	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1
70.4	79.8	81.9	83.2	86.9	87.0	87.8	88.2	88.5	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9
70.6	79.9	82.1	83.3	87.0	87.1	87.9	88.4	88.8	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1	89.1
71.0	81.0	83.1	84.4	88.4	88.5	89.4	90.2	90.5	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0
71.4	81.4	83.7	85.0	89.2	89.4	90.2	91.1	91.5	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7
72.2	82.5	84.8	86.2	90.7	90.8	91.7	92.8	93.1	94.3	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6
72.3	82.7	85.0	86.4	91.0	91.3	92.3	93.5	93.9	95.0	95.3	95.3	95.4	95.4	95.4	95.4	95.4	95.4
72.7	83.1	85.5	87.0	91.7	92.0	93.0	94.3	94.8	96.0	96.2	96.3	96.5	96.5	96.5	96.5	96.5	96.5
72.7	83.1	85.5	87.1	92.0	92.2	93.3	94.6	95.0	96.2	96.5	96.6	96.8	96.8	96.8	96.8	96.8	96.8
72.7	83.1	85.6	87.4	92.3	92.8	94.1	95.4	95.9	97.0	97.3	97.4	97.8	97.8	97.8	97.8	97.8	97.8
72.8	83.2	85.7	87.5	92.4	92.9	94.2	95.5	96.0	97.3	97.5	97.6	98.0	98.0	98.0	98.0	98.0	98.0
73.0	83.5	86.4	88.2	93.1	93.6	95.0	96.3	96.8	98.2	98.5	98.6	99.1	99.1	99.1	99.1	99.1	99.1
73.0	83.5	86.4	88.2	93.1	93.6	95.2	96.8	97.5	98.9	99.2	99.3	99.8	99.8	99.8	99.8	99.8	99.8
73.0	83.5	86.4	88.2	93.1	93.6	95.2	96.8	97.5	99.2	99.4	99.5	100.0	100.0	100.0	100.0	100.0	100.0
73.0	83.5	86.4	88.2	93.1	93.6	95.2	96.8	97.5	99.2	99.4	99.5	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 846

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

FEB

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

45.1	48.6	49.4	49.8	50.7	50.8	50.9	51.1	51.2	51.3	51.4	51.4	51.4	51.4	51.4	51.5
48.0	51.9	52.7	53.1	54.2	54.2	54.4	54.6	54.7	54.8	54.9	54.9	55.0	55.0	55.0	55.1
48.3	52.1	52.9	53.4	54.5	54.6	54.7	54.9	55.0	55.2	55.2	55.3	55.3	55.3	55.3	55.4
48.4	52.3	53.1	53.6	54.7	54.8	54.9	55.1	55.2	55.4	55.5	55.5	55.5	55.5	55.5	55.6
49.0	52.9	53.8	54.2	55.3	55.4	55.6	55.8	55.9	56.0	56.1	56.1	56.2	56.2	56.2	56.3
50.2	54.3	55.1	55.6	56.8	56.9	57.1	57.3	57.4	57.5	57.6	57.6	57.7	57.7	57.7	57.8
53.3	58.1	59.0	59.5	60.8	60.9	61.1	61.3	61.4	61.6	61.7	61.7	61.8	61.8	61.8	61.8
53.9	58.7	59.7	60.3	61.6	61.6	61.8	62.0	62.1	62.3	62.4	62.4	62.5	62.5	62.5	62.6
55.5	60.7	61.9	62.6	64.1	64.1	64.3	64.6	64.7	64.8	64.9	64.9	65.0	65.0	65.0	65.1
56.3	61.7	63.0	63.8	65.3	65.4	65.6	65.8	65.9	66.1	66.2	66.2	66.3	66.3	66.3	66.3
57.2	62.7	64.0	65.0	66.5	66.6	66.9	67.1	67.2	67.4	67.5	67.5	67.5	67.6	67.6	67.6
58.7	64.4	65.9	66.9	68.6	68.8	69.2	69.5	69.6	69.8	69.9	69.9	69.9	69.9	69.9	70.0
59.4	65.2	66.7	67.8	69.5	69.8	70.2	70.4	70.6	70.7	70.8	70.8	70.9	70.9	70.9	71.0
61.1	67.5	69.2	70.4	72.3	72.6	73.1	73.5	73.6	73.9	74.0	74.0	74.1	74.1	74.1	74.2
62.0	68.8	70.6	71.9	74.0	74.3	74.9	75.2	75.3	75.7	75.7	75.8	75.8	75.9	75.9	75.9
63.5	71.1	73.1	74.7	77.2	77.6	78.3	78.7	78.8	79.1	79.2	79.3	79.3	79.4	79.4	79.4
64.8	72.9	75.2	76.9	79.7	80.3	81.0	81.5	81.7	82.1	82.2	82.2	82.3	82.4	82.4	82.4
66.3	75.2	77.9	79.7	82.8	83.6	84.6	85.3	85.6	86.0	86.2	86.2	86.4	86.4	86.4	86.5
66.4	75.5	78.2	80.0	83.2	84.0	85.0	85.8	86.1	86.5	86.6	86.7	86.8	86.9	86.9	86.9
67.3	76.9	79.7	81.6	85.0	85.9	87.0	88.0	88.3	88.8	89.0	89.1	89.2	89.2	89.3	89.3
67.8	77.8	80.7	82.8	86.2	87.1	88.5	89.6	89.9	90.6	90.9	90.9	91.1	91.1	91.2	91.3
68.4	78.7	81.8	83.9	87.6	88.5	90.0	91.2	91.5	92.4	92.8	92.8	93.2	93.2	93.2	93.3
68.4	78.8	82.0	84.2	87.9	88.9	90.4	91.7	92.1	93.0	93.4	93.5	93.8	93.9	93.9	94.0
68.7	79.3	82.5	84.7	88.4	89.5	91.1	92.7	93.2	94.2	94.7	94.8	95.3	95.3	95.4	95.4
68.8	79.5	82.8	85.1	88.9	90.0	91.7	93.3	93.9	94.9	95.4	95.5	96.0	96.1	96.1	96.2
68.8	79.6	83.1	85.4	89.3	90.5	92.3	93.8	94.6	95.6	96.2	96.4	96.9	97.0	97.0	97.1
68.8	79.8	83.3	85.7	89.6	90.8	92.7	94.3	95.1	96.2	96.9	97.0	97.6	97.7	97.8	97.9
68.8	79.9	83.5	86.0	89.9	91.2	93.3	94.9	95.7	97.0	97.7	97.8	98.4	98.5	98.7	98.7
68.8	79.9	83.6	86.1	90.0	91.3	93.5	95.3	96.2	97.5	98.2	98.4	99.1	99.2	99.4	99.5
68.8	79.9	83.6	86.1	90.0	91.3	93.5	95.3	96.2	97.7	98.3	98.5	99.2	99.4	99.6	99.8
68.8	79.9	83.6	86.1	90.0	91.3	93.5	95.3	96.2	97.7	98.4	98.5	99.3	99.5	99.8	100.0
68.8	79.9	83.6	86.1	90.0	91.3	93.5	95.3	96.2	97.7	98.4	98.5	99.3	99.5	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 6768

USAF ETAC 14-15-101-A PREPARED BY THE AIR WEATHER SERVICE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-62

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-0200

51.2	52.4	52.4	52.5	52.5	52.5	52.5	52.6	52.6	52.6	52.9	52.9	53.0	53.0	53.0	53.0
54.3	56.3	56.3	56.1	56.1	56.1	56.1	56.2	56.2	56.2	56.6	56.6	56.7	56.7	56.7	56.7
54.7	56.6	56.6	56.7	56.7	56.7	56.7	56.8	56.8	56.8	57.1	57.1	57.2	57.2	57.2	57.2
54.7	56.7	56.7	56.8	56.8	56.8	56.8	56.9	56.9	56.9	57.2	57.2	57.3	57.3	57.3	57.3
54.9	56.9	56.9	57.0	57.0	57.0	57.0	57.1	57.1	57.1	57.4	57.4	57.5	57.5	57.5	57.5
55.6	57.6	57.6	57.7	57.7	57.7	57.7	57.8	57.8	57.8	58.2	58.2	58.3	58.3	58.3	58.3
58.9	61.0	61.0	61.1	61.1	61.1	61.1	61.2	61.2	61.2	61.5	61.5	61.6	61.6	61.6	61.6
58.9	61.3	61.3	61.1	61.1	61.1	61.1	61.2	61.2	61.2	61.5	61.5	61.6	61.6	61.6	61.6
61.0	63.0	63.0	63.1	63.1	63.1	63.1	63.4	63.4	63.5	63.9	63.9	64.0	64.0	64.0	64.0
61.8	64.0	64.0	64.1	64.1	64.1	64.1	64.4	64.4	64.5	64.8	64.8	64.9	64.9	64.9	64.9
64.0	66.2	66.2	66.5	66.7	66.7	66.7	67.0	67.0	67.1	67.4	67.4	67.5	67.5	67.5	67.5
66.3	68.8	68.8	69.1	69.4	69.4	69.4	69.7	69.7	69.8	70.1	70.1	70.3	70.3	70.3	70.3
67.1	69.6	69.8	70.2	70.9	70.9	70.9	71.2	71.2	71.3	71.6	71.6	71.8	71.8	71.8	71.8
69.1	72.0	72.3	72.7	73.3	73.3	73.3	73.7	73.7	73.8	74.1	74.1	74.3	74.3	74.3	74.3
70.2	73.4	73.8	74.2	74.8	74.8	74.8	75.2	75.2	75.3	75.6	75.6	75.8	75.8	75.8	75.8
72.6	76.0	76.5	77.0	77.8	77.8	77.8	78.2	78.2	78.3	78.6	78.6	78.8	78.8	78.8	78.8
73.9	77.6	78.3	79.1	80.1	80.1	80.2	80.5	80.5	80.6	81.0	81.0	81.2	81.2	81.2	81.2
74.6	79.1	79.8	80.6	81.7	81.7	81.8	82.5	82.5	82.6	82.9	82.9	83.1	83.1	83.1	83.1
74.6	79.2	80.2	81.1	82.3	82.3	82.4	83.0	83.0	83.1	83.4	83.4	83.7	83.7	83.7	83.7
75.6	81.1	82.2	83.0	84.3	84.6	84.8	85.5	85.5	85.6	85.9	85.9	86.1	86.1	86.1	86.1
77.4	83.4	84.7	85.6	86.9	87.4	88.3	89.2	89.2	89.4	89.7	89.7	89.9	89.9	89.9	89.9
77.5	84.3	85.6	86.6	87.8	88.4	89.6	90.6	90.6	90.9	91.2	91.2	91.4	91.4	91.4	91.4
77.7	84.5	85.8	86.8	88.1	88.6	89.9	91.0	91.0	91.2	91.5	91.5	91.7	91.7	91.7	91.7
77.7	84.5	85.8	86.8	88.1	88.6	90.0	91.1	91.2	91.4	91.7	91.7	91.9	91.9	91.9	91.9
77.8	84.8	86.1	87.1	88.6	89.1	90.6	92.0	92.3	92.5	92.8	92.8	93.0	93.0	93.0	93.0
77.8	85.5	86.8	87.7	89.2	89.8	91.3	92.7	93.2	93.4	93.9	93.9	94.2	94.2	94.2	94.2
77.8	86.0	87.5	88.7	90.2	90.8	92.3	93.8	94.4	94.6	95.3	95.3	95.7	95.7	95.7	95.7
77.8	86.0	87.5	88.7	90.3	90.9	93.0	94.5	95.2	95.4	96.0	96.0	96.5	96.5	96.5	96.7
77.8	86.0	87.5	88.7	90.3	90.9	93.4	95.3	96.0	96.5	97.1	97.1	97.5	97.5	97.6	98.2
77.8	86.0	87.5	88.7	90.3	90.9	93.8	95.6	96.3	96.8	97.5	97.5	98.1	98.1	98.2	99.0
77.8	86.0	87.5	88.7	90.3	90.9	93.8	95.6	96.3	96.8	97.5	97.5	98.1	98.3	98.4	99.6
77.8	86.0	87.5	88.7	90.3	90.9	93.8	95.6	96.3	96.8	97.5	97.6	98.2	98.4	98.5	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-2520

47.4	49.0	49.5	49.6	50.1	50.3	50.3	50.3	50.3	50.4	50.4	50.4	50.4	50.4	50.5	50.5	50.6
50.0	51.9	52.4	52.5	53.0	53.2	53.2	53.3	53.3	53.4	53.4	53.4	53.4	53.4	53.5	53.5	53.7
50.2	52.2	52.6	52.7	53.2	53.4	53.4	53.5	53.5	53.7	53.7	53.7	53.7	53.7	53.8	53.8	53.9
50.3	52.4	52.8	52.9	53.4	53.7	53.7	53.8	53.8	53.9	53.9	53.9	53.9	53.9	54.0	54.0	54.1
51.6	53.7	54.1	54.2	54.7	54.9	54.9	55.1	55.1	55.2	55.2	55.2	55.2	55.2	55.3	55.3	55.4
52.5	54.8	55.3	55.4	55.9	56.1	56.1	56.2	56.2	56.3	56.3	56.3	56.3	56.3	56.5	56.5	56.6
56.7	58.6	59.0	59.1	59.7	59.9	59.9	60.0	60.0	60.1	60.1	60.1	60.1	60.1	60.2	60.2	60.3
56.7	59.2	59.7	59.8	60.3	60.5	60.5	60.6	60.6	60.8	60.8	60.8	60.8	60.8	60.9	60.9	61.0
58.5	61.1	61.5	61.6	62.2	62.4	62.4	62.5	62.5	62.6	62.6	62.6	62.6	62.6	62.7	62.7	62.8
58.7	61.5	61.9	62.0	62.6	62.8	62.8	62.9	62.9	63.0	63.0	63.0	63.0	63.0	63.1	63.1	63.2
59.7	62.7	63.1	63.2	63.8	64.0	64.0	64.1	64.1	64.2	64.2	64.2	64.2	64.2	64.3	64.3	64.4
61.4	64.6	65.1	65.2	65.7	65.9	65.9	66.0	66.0	66.1	66.1	66.1	66.1	66.1	66.2	66.2	66.3
62.3	65.6	66.0	66.2	67.1	67.5	67.5	67.6	67.6	67.7	67.7	67.7	67.7	67.7	67.8	67.8	68.0
65.2	69.6	70.0	70.2	71.2	71.7	71.8	71.9	71.9	72.0	72.0	72.0	72.0	72.0	72.2	72.2	72.3
66.2	70.6	71.1	71.3	72.3	72.8	72.9	73.0	73.0	73.1	73.1	73.1	73.1	73.1	73.2	73.2	73.3
68.1	73.0	73.5	73.8	75.3	75.8	75.9	76.1	76.1	76.2	76.2	76.2	76.2	76.2	76.3	76.3	76.5
68.8	74.4	75.2	75.4	77.0	77.6	77.7	78.0	78.0	78.1	78.1	78.1	78.1	78.1	78.2	78.2	78.3
70.4	76.5	77.2	77.4	79.1	80.0	80.1	80.4	80.4	80.5	80.5	80.5	80.5	80.5	80.6	80.6	80.8
70.9	77.3	78.1	78.3	80.0	80.9	81.0	81.3	81.3	81.4	81.4	81.4	81.4	81.4	81.5	81.5	81.6
71.7	78.5	79.8	80.0	81.8	82.8	83.1	83.5	83.5	83.7	83.7	83.7	83.7	83.7	83.8	83.8	83.9
73.1	80.0	81.3	81.5	83.7	84.6	84.9	85.6	85.6	85.8	85.8	85.8	85.8	85.8	85.9	85.9	86.0
73.7	80.8	82.2	82.4	84.6	85.7	86.0	86.7	86.7	86.9	87.4	87.4	87.4	87.4	87.5	87.5	87.6
73.8	81.1	82.7	82.9	85.2	86.5	86.9	87.5	87.5	87.7	88.3	88.3	88.3	88.3	88.4	88.4	88.5
73.8	81.1	82.8	83.0	85.3	86.6	87.1	87.7	87.7	88.1	88.6	88.6	88.6	88.6	88.7	88.7	88.8
74.0	81.4	83.1	83.4	85.7	87.1	87.7	88.4	88.4	88.9	89.5	89.5	89.5	89.5	89.6	89.6	89.7
74.0	82.2	83.9	84.2	86.7	88.2	88.9	89.6	89.6	90.1	91.2	91.3	91.6	91.7	91.7	91.8	91.8
74.0	82.8	84.6	85.3	88.1	89.9	91.1	91.8	91.8	92.4	93.7	93.8	94.2	94.3	94.3	94.4	94.4
74.0	83.0	85.1	85.7	88.5	90.4	92.4	93.4	93.5	94.1	95.5	95.6	96.0	96.1	96.1	96.2	96.2
74.0	83.1	85.2	85.8	88.7	91.3	93.7	94.7	94.9	95.7	97.1	97.2	97.6	97.7	97.8	97.8	98.0
74.0	83.1	85.2	85.8	88.7	91.3	93.8	94.9	95.2	96.3	97.7	97.8	98.3	98.4	98.5	98.5	98.9
74.0	83.1	85.2	85.8	88.8	91.4	93.9	95.1	95.3	96.5	98.0	98.1	98.6	98.7	99.1	99.6	99.6
74.0	83.1	85.2	85.8	88.8	91.4	93.9	95.1	95.3	96.5	98.0	98.1	98.6	98.7	99.1	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIP WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-0800

CEILING (FEET)	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
NO CEILING	43.1	45.6	46.0	46.5	47.6	47.6	48.0	48.5	48.5	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.9
2-2999	46.3	48.9	49.5	49.9	51.2	51.2	51.5	52.0	52.0	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.5
3-5999	46.6	49.1	49.7	50.1	51.4	51.4	51.7	52.3	52.3	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.7
6-9999	46.6	49.1	49.7	50.1	51.4	51.4	51.7	52.3	52.3	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.7
10-14.99	47.4	50.0	50.5	51.1	52.4	52.4	52.7	53.2	53.3	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.9
15-19.99	48.7	51.3	51.8	52.4	53.8	53.8	54.1	54.6	54.7	55.1	55.1	55.1	55.2	55.2	55.2	55.2	55.4
20-24.99	52.0	54.7	55.3	55.8	57.3	57.3	57.6	58.2	58.3	58.7	58.7	58.7	58.8	58.8	58.8	58.8	59.0
25-29.99	52.5	55.5	56.0	56.6	58.1	58.1	58.4	58.9	59.0	59.5	59.5	59.5	59.6	59.6	59.6	59.6	59.8
30-34.99	54.9	58.1	58.7	59.2	60.9	60.9	61.2	61.7	61.8	62.5	62.5	62.5	62.6	62.6	62.6	62.6	62.8
35-39.99	55.9	59.5	60.1	60.6	62.4	62.4	62.7	63.2	63.3	64.0	64.0	64.0	64.1	64.1	64.1	64.1	64.3
40-44.99	56.2	60.0	60.8	61.3	63.0	63.0	63.3	63.9	64.0	64.6	64.6	64.6	64.6	64.7	64.7	64.7	64.9
45-49.99	58.3	62.5	63.3	64.0	65.8	65.8	66.1	66.7	66.8	67.4	67.4	67.4	67.5	67.5	67.5	67.5	67.7
50-54.99	59.0	63.2	64.1	64.7	66.7	67.0	67.5	68.1	68.2	68.8	68.8	68.8	68.8	68.9	68.9	68.9	69.1
55-59.99	60.8	65.3	66.1	66.9	69.1	69.5	70.0	70.5	70.6	71.3	71.3	71.3	71.4	71.4	71.4	71.4	71.6
60-64.99	61.4	66.1	67.2	68.0	70.4	70.9	71.6	72.2	72.3	72.9	72.9	72.9	73.0	73.0	73.0	73.0	73.2
65-69.99	63.8	68.9	70.1	70.9	73.3	73.9	74.6	75.2	75.3	75.9	75.9	76.0	76.1	76.1	76.1	76.1	76.3
70-74.99	64.6	70.0	71.6	72.5	75.1	75.6	76.5	77.1	77.2	78.0	78.0	78.1	78.2	78.2	78.2	78.2	78.4
75-79.99	67.1	72.9	74.5	75.5	78.2	78.7	79.7	80.4	80.5	81.3	81.3	81.4	81.5	81.5	81.5	81.5	81.7
80-84.99	67.4	73.3	75.1	76.0	78.8	79.4	80.3	81.1	81.2	81.9	81.9	82.0	82.2	82.2	82.2	82.2	82.4
85-89.99	68.1	74.4	76.6	77.5	80.5	81.1	82.2	83.0	83.1	84.0	84.0	84.1	84.2	84.2	84.2	84.2	84.4
90-94.99	68.3	74.7	77.0	78.0	81.2	81.7	83.1	84.0	84.1	85.1	85.1	85.2	85.3	85.3	85.3	85.3	85.5
95-99.99	69.0	75.9	78.2	79.1	82.6	83.1	84.8	85.7	85.8	86.9	87.2	87.3	87.4	87.4	87.4	87.4	87.7
100-149.99	69.1	76.3	78.6	79.6	83.2	84.0	85.9	86.9	87.0	88.1	88.5	88.6	88.6	88.9	88.9	88.9	89.2
150-199.99	69.4	77.0	79.5	80.5	84.2	85.2	87.1	88.1	88.2	89.6	90.0	90.1	90.4	90.4	90.4	90.5	90.8
200-249.99	69.6	77.2	79.7	80.9	84.5	85.5	87.5	88.6	88.7	90.1	90.5	90.6	91.0	91.0	91.1	91.1	91.3
250-299.99	69.7	77.3	79.9	81.2	85.2	86.1	88.2	89.2	89.4	90.8	91.3	91.4	91.9	91.9	92.0	92.0	92.3
300-349.99	69.8	77.8	80.6	82.5	86.8	87.8	90.1	91.4	91.5	92.9	93.7	93.8	94.5	94.5	94.6	94.6	94.8
350-399.99	69.8	78.1	81.0	82.9	87.6	88.9	91.4	92.8	93.0	94.5	95.3	95.4	96.1	96.1	96.2	96.2	96.5
400-449.99	69.9	78.3	81.2	83.1	87.8	89.5	92.5	94.0	94.2	95.8	96.9	97.0	98.0	98.0	98.1	98.3	98.3
450-499.99	69.9	78.3	81.2	83.1	87.8	89.5	92.6	94.1	94.3	96.0	97.2	97.3	98.3	98.5	98.7	99.0	99.0
500-549.99	69.9	78.3	81.2	83.1	87.8	89.5	92.6	94.1	94.3	96.1	97.3	97.4	98.5	98.8	99.6	99.9	99.9
550-599.99	69.9	78.3	81.2	83.1	87.8	89.5	92.6	94.1	94.3	96.1	97.3	97.4	98.5	98.8	99.6	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14-5 OL All PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0900-1100

42.3	45.8	47.8	48.4	48.6	48.8	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0
45.8	49.9	51.9	52.6	52.8	53.0	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2
46.0	50.2	52.3	52.9	53.2	53.4	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7
46.0	50.2	52.3	52.9	53.2	53.4	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7
46.5	50.8	52.8	53.5	53.9	54.1	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
47.6	52.0	54.1	54.8	55.3	55.5	55.8	55.8	55.8	55.8	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
49.4	54.1	56.2	57.3	57.7	58.0	58.5	58.5	58.5	58.5	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6	58.6
49.5	54.3	56.5	57.5	58.0	58.2	58.7	58.7	58.7	58.7	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
50.4	55.6	57.7	58.9	59.5	59.7	60.4	60.4	60.4	60.5	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
51.5	56.9	59.0	60.2	60.9	61.1	61.9	61.9	61.9	62.0	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2
52.4	57.7	59.9	61.3	62.3	62.5	63.4	63.4	63.4	63.5	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7
53.7	59.9	61.7	63.3	64.5	64.7	65.7	65.9	65.9	66.1	66.2	66.2	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
54.6	61.2	63.8	65.5	66.8	67.1	68.1	68.3	68.3	68.5	68.6	68.6	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7
55.4	62.5	65.1	66.9	68.4	68.7	69.7	69.9	69.9	70.1	70.2	70.2	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3
56.2	63.3	66.0	67.8	69.5	69.8	70.8	71.0	71.0	71.2	71.3	71.3	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
58.3	65.7	68.4	70.2	71.8	72.3	73.2	73.7	73.8	74.0	74.1	74.1	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2
59.2	67.4	70.8	72.8	74.4	74.8	76.0	76.6	76.7	76.9	77.2	77.2	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3
61.1	70.0	73.9	75.9	77.6	78.3	79.8	80.3	80.4	80.6	81.0	81.0	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1
61.5	70.4	74.3	76.3	78.1	78.9	80.4	81.0	81.1	81.3	81.6	81.6	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
61.8	71.3	75.3	77.3	79.6	80.4	82.2	82.8	82.9	83.1	83.5	83.5	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7
63.0	73.2	77.2	79.5	81.8	82.8	84.9	85.7	85.8	86.0	86.5	86.5	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7
63.9	74.4	78.7	81.3	84.4	85.4	87.7	88.7	88.8	89.0	89.5	89.5	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7
64.2	75.4	80.0	82.6	85.9	87.0	89.5	90.4	90.5	90.9	91.7	91.7	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9
64.2	75.5	80.3	82.9	86.2	87.3	89.9	91.0	91.1	91.4	92.3	92.3	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
64.2	75.7	80.6	83.2	86.8	87.8	90.5	91.6	91.8	92.3	93.1	93.1	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3
64.3	75.8	81.0	83.5	87.2	88.3	91.1	92.3	92.5	92.9	93.8	93.8	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0
64.3	75.8	81.1	83.9	87.8	89.0	92.2	93.3	93.5	94.1	95.1	95.1	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
64.3	75.8	81.1	83.9	88.1	89.6	93.3	94.5	94.7	95.3	96.3	96.3	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
64.3	75.8	81.1	83.9	88.1	89.6	93.5	94.8	95.2	95.8	97.2	97.2	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
64.3	75.8	81.1	83.9	88.1	89.6	93.5	94.8	95.2	95.9	97.3	97.3	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
64.3	75.8	81.1	83.9	88.1	89.6	93.5	94.8	95.2	96.0	97.4	97.4	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
64.3	75.8	81.1	83.9	88.1	89.6	93.5	94.8	95.2	96.0	97.4	97.4	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1200-1400

CEILING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	41.3	44.7	46.3	46.3	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	46.5	
2	45.1	49.1	50.9	50.9	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2	
3	45.3	49.5	51.2	51.2	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	
4	45.6	49.8	51.5	51.5	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	
5	46.0	50.5	52.4	52.4	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	
6	47.8	52.4	54.2	54.3	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	
7	48.9	53.9	55.7	55.8	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	
8	49.1	54.3	56.1	56.2	56.7	56.7	56.7	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	
9	50.0	55.5	57.3	57.4	58.0	58.0	58.3	58.4	58.4	58.4	58.4	58.4	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	
10	50.4	55.9	57.8	58.0	58.5	58.6	58.9	59.0	59.0	59.0	59.0	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	
11	52.3	57.5	59.5	59.7	60.2	60.4	60.8	60.9	60.9	60.9	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	
12	53.7	59.8	61.7	62.3	62.8	63.1	63.4	63.5	63.5	63.5	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	
13	53.9	60.6	62.6	63.1	63.7	64.0	64.3	64.4	64.4	64.4	64.4	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	
14	55.8	62.9	64.8	65.5	66.0	66.3	66.8	67.0	67.0	67.0	67.0	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	
15	56.6	64.0	65.9	66.6	67.2	67.5	68.2	68.4	68.4	68.4	68.4	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	
16	58.9	66.8	68.9	69.7	70.4	70.8	71.7	71.9	71.9	71.9	72.2	72.2	72.2	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	
17	60.9	69.4	71.9	72.7	73.5	73.9	75.5	75.7	75.7	75.7	75.9	75.9	75.9	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	
18	63.7	73.3	76.0	77.1	78.0	78.4	80.1	80.3	80.3	80.3	80.6	80.8	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	
19	64.1	73.9	76.6	77.6	78.6	79.0	80.8	81.0	81.0	81.0	81.3	81.4	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	
20	65.7	76.5	79.4	80.4	81.6	82.0	83.9	84.1	84.1	84.1	84.4	84.5	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	
21	66.5	78.6	81.6	83.0	84.2	84.6	86.7	86.9	87.0	87.0	87.4	87.5	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	
22	66.9	79.8	83.1	84.6	85.9	86.3	88.4	88.6	88.7	88.7	89.1	89.2	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	90.3	
23	67.0	80.8	84.3	86.1	87.6	88.1	90.2	90.4	90.5	90.6	91.1	91.2	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	
24	67.1	81.0	84.6	86.6	88.3	88.7	90.9	91.1	91.2	91.3	91.7	91.8	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	
25	67.0	81.2	84.9	87.0	89.1	89.6	91.7	91.9	92.0	92.5	93.0	93.2	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	
26	67.0	81.2	84.9	87.0	89.2	89.7	91.8	92.0	92.2	92.6	93.2	93.4	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	
27	67.0	81.5	85.3	87.3	90.0	90.4	92.6	92.9	93.0	93.5	94.2	94.4	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	
28	67.0	81.5	85.3	87.8	91.0	91.5	93.7	94.0	94.2	94.9	95.7	95.9	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	
29	67.0	81.5	85.3	87.8	91.0	91.5	93.7	94.1	94.4	95.3	96.6	96.8	98.5	98.7	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	
30	67.0	81.5	85.3	87.8	91.0	91.5	93.8	94.2	94.5	95.5	96.8	97.0	98.9	99.1	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	
31	67.0	81.5	85.3	87.8	91.0	91.5	93.8	94.2	94.5	95.5	96.8	97.0	98.9	99.1	99.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
32	67.0	81.5	85.3	87.8	91.0	91.5	93.8	94.2	94.5	95.5	96.8	97.0	98.9	99.1	99.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1700

42.0	44.2	44.8	44.9	45.1	45.2	45.3	45.4	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
45.7	48.3	49.2	49.5	49.6	49.7	49.8	49.9	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
46.3	48.9	49.9	50.1	50.2	50.3	50.4	50.5	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6	50.6
46.8	49.4	50.3	50.5	50.6	50.8	50.9	51.0	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1
47.6	50.8	51.7	51.9	52.1	52.2	52.4	52.5	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
48.5	51.7	52.7	52.9	53.0	53.1	53.3	53.4	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5	53.5
49.6	53.2	54.2	54.4	54.5	54.6	54.9	55.1	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2
50.1	53.9	54.8	55.1	55.2	55.3	55.6	55.7	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8
51.7	56.1	57.1	57.3	57.4	57.5	57.8	58.0	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1
52.7	57.5	58.5	58.7	58.9	59.0	59.4	59.5	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
53.7	58.5	59.5	59.8	60.0	60.1	60.4	60.5	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
54.7	60.1	61.2	61.7	61.9	62.0	62.4	62.5	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
55.2	60.8	61.8	62.4	62.6	62.7	63.0	63.1	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2	63.2
57.4	63.2	64.4	64.9	65.2	65.3	65.6	65.7	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8
59.6	65.6	66.8	67.3	67.7	67.8	68.3	68.4	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5
62.7	69.7	70.9	71.4	72.0	72.2	72.9	73.1	73.3	73.5	73.5	73.5	73.5	73.5	73.5	73.5	73.5
64.7	72.3	74.1	74.6	75.5	75.7	76.7	77.0	77.2	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4
67.4	76.0	78.0	78.7	79.8	80.3	81.5	81.8	82.0	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
67.6	76.6	78.5	79.2	80.3	80.9	82.0	82.4	82.6	82.8	82.8	82.8	82.8	83.0	83.1	83.1	83.1
69.0	79.7	81.6	82.7	84.1	84.6	85.8	86.6	86.8	87.0	87.0	87.0	87.0	87.4	87.5	87.5	87.5
69.7	81.0	83.0	84.1	85.6	86.1	87.6	88.4	88.6	89.0	89.1	89.1	89.1	89.6	89.7	89.7	89.7
70.0	81.5	83.7	84.7	86.3	87.0	88.6	89.5	89.7	90.3	90.6	90.6	91.1	91.2	91.2	91.2	91.2
70.2	82.2	84.5	85.7	87.3	88.0	89.6	90.4	90.6	91.4	91.7	91.7	92.2	92.3	92.3	92.3	92.3
70.3	82.5	84.8	86.1	87.7	88.4	90.0	90.9	91.1	91.9	92.3	92.3	92.7	92.8	92.8	92.8	92.9
70.3	82.5	85.1	86.7	88.5	89.1	90.8	91.6	91.8	92.8	93.2	93.4	93.9	94.0	94.0	94.0	94.1
70.3	82.7	85.3	87.1	89.5	90.1	91.7	93.0	93.2	94.2	94.8	95.2	95.6	95.8	95.9	96.0	96.0
70.3	82.7	85.3	87.1	89.7	90.3	92.3	93.5	93.8	95.1	95.8	96.1	96.8	97.0	97.1	97.2	97.2
70.3	82.8	85.5	87.6	90.3	91.0	93.1	94.6	94.8	96.1	97.0	97.3	98.1	98.3	98.4	98.5	98.5
70.3	82.8	85.5	87.6	90.3	91.1	93.2	94.8	95.1	96.5	97.4	97.7	98.7	99.1	99.4	99.5	99.5
70.3	82.8	85.5	87.6	90.3	91.1	93.2	94.8	95.1	96.5	97.4	97.7	98.7	99.1	99.5	99.9	99.9
70.3	82.8	85.5	87.6	90.3	91.1	93.2	94.8	95.1	96.5	97.4	97.7	98.7	99.1	99.5	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAL 10-14-83 OL A PREP BY AIR WEATHER SERVICE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/HAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1800-2000

47.1	48.5	43.9	49.4	49.5	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6
49.9	51.8	52.3	52.8	52.9	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
50.1	52.4	52.8	53.3	53.4	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
50.3	52.6	53.0	53.5	53.7	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
51.3	53.9	54.3	54.8	54.9	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4	55.4
52.5	55.2	55.6	56.1	56.2	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
54.7	58.1	58.5	59.0	59.1	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
55.2	58.5	58.9	59.5	59.6	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
57.5	61.0	61.5	62.0	62.2	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
58.5	62.0	62.6	63.1	63.2	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7
59.2	62.8	63.3	63.9	64.0	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4
59.9	64.1	64.8	65.4	65.5	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
60.4	64.8	65.6	66.1	66.2	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7
62.7	67.5	68.5	69.2	69.4	69.9	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
64.4	69.4	70.5	71.3	71.5	72.0	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2
66.8	72.5	73.8	74.6	75.3	75.8	75.9	76.0	76.0	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1
69.4	76.0	77.4	78.7	79.6	80.1	80.2	80.3	80.3	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4
71.8	79.5	81.2	82.6	83.8	84.5	84.6	84.7	84.7	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8
72.3	80.1	81.8	83.2	84.4	85.2	85.3	85.4	85.4	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
72.8	81.2	83.1	84.6	86.0	87.1	87.5	87.6	87.6	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
73.8	82.4	84.3	86.1	87.8	89.2	90.0	90.4	90.5	90.8	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0
73.9	82.6	84.5	86.3	88.2	89.7	90.6	91.1	91.4	91.7	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0
73.9	82.6	84.6	86.5	88.3	89.8	90.8	91.2	91.5	91.8	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2
73.9	82.8	84.8	86.7	88.5	90.0	91.0	91.6	92.0	92.5	92.9	92.9	92.9	92.9	93.0	93.0	93.0	93.0
73.9	82.9	85.1	86.9	89.2	90.8	91.7	92.4	92.8	93.2	93.8	93.8	93.8	93.8	93.9	93.9	93.9	93.9
73.9	82.9	85.1	87.1	89.9	91.6	92.6	93.7	94.1	94.6	95.3	95.3	95.3	95.3	95.5	95.5	95.5	95.5
73.9	83.0	85.2	87.3	90.1	91.8	93.1	94.4	95.3	96.2	97.2	97.2	97.2	97.2	97.5	97.5	97.5	97.5
73.9	83.0	85.2	87.4	90.4	92.2	93.8	95.3	96.1	97.3	98.3	98.3	98.3	98.3	98.5	98.7	98.7	98.7
73.9	83.0	85.2	87.4	90.4	92.2	93.9	95.3	96.7	97.8	98.8	98.9	99.1	99.4	99.4	99.4	99.4	99.4
73.9	83.0	85.2	87.4	90.4	92.2	93.9	95.8	96.7	97.8	99.0	99.1	99.4	99.4	99.6	99.6	99.6	99.6
73.9	83.0	85.2	87.4	90.4	92.2	93.9	95.8	96.7	97.8	99.0	99.1	99.4	99.4	99.6	99.6	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 930

USAFETAC GRAND FORKS AFB ND 73-82 MAR 1800-2000

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIF WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

55.2	57.1	57.1	57.2	57.5	57.5	57.6	57.6	57.6	57.8	57.8	57.8	58.0	58.0	58.0	58.1
57.4	59.8	59.9	60.0	60.4	60.5	60.6	60.6	60.6	60.9	60.9	60.9	61.0	61.0	61.0	61.1
57.4	59.8	59.9	60.0	60.4	60.5	60.6	60.6	60.6	60.9	60.9	60.9	61.0	61.0	61.0	61.1
57.4	59.8	59.9	60.0	60.4	60.5	60.6	60.6	60.6	60.9	60.9	60.9	61.0	61.0	61.0	61.1
57.4	59.8	59.9	60.0	60.4	60.5	60.6	60.6	60.6	60.9	60.9	60.9	61.0	61.0	61.0	61.1
57.4	59.8	59.9	60.0	60.4	60.5	60.6	60.6	60.6	60.9	60.9	60.9	61.0	61.0	61.0	61.1
58.3	60.6	60.8	60.9	61.3	61.4	61.5	61.5	61.6	61.8	61.8	61.8	61.9	61.9	61.9	62.0
59.9	62.4	62.5	62.6	63.0	63.1	63.2	63.2	63.3	63.5	63.5	63.5	63.7	63.7	63.7	63.8
60.0	62.6	62.7	62.8	63.2	63.3	63.4	63.4	63.5	63.8	63.8	63.8	63.9	63.9	63.9	64.0
61.9	64.5	64.6	64.7	65.4	65.5	65.6	65.7	65.8	66.0	66.0	66.0	66.1	66.1	66.1	66.2
63.0	65.6	65.7	65.8	66.5	66.6	66.7	66.8	66.9	67.1	67.1	67.1	67.2	67.2	67.2	67.3
63.7	66.2	66.3	66.5	67.3	67.4	67.5	67.6	67.7	68.0	68.0	68.0	68.1	68.1	68.1	68.2
64.9	67.6	68.1	68.2	69.0	69.1	69.2	69.4	69.5	69.7	69.7	69.7	69.8	69.8	69.8	69.9
65.4	68.1	68.5	68.7	69.6	69.7	69.8	69.9	70.0	70.2	70.2	70.2	70.3	70.3	70.3	70.4
67.6	71.4	72.0	72.4	73.3	73.4	73.7	73.8	73.9	74.1	74.1	74.1	74.2	74.2	74.2	74.3
68.9	72.9	73.7	74.0	75.2	75.3	75.5	75.6	75.7	75.9	75.9	75.9	76.0	76.0	76.0	76.1
71.4	75.6	76.3	76.8	78.5	78.6	79.1	79.2	79.4	79.6	79.6	79.6	79.7	79.7	79.7	79.8
72.8	77.5	78.4	79.1	80.9	81.1	81.6	81.9	82.0	82.3	82.3	82.3	82.4	82.4	82.4	82.5
74.9	80.2	81.1	82.0	84.1	84.4	85.2	85.7	85.8	86.1	86.1	86.1	86.2	86.2	86.2	86.3
75.3	81.0	81.8	82.9	85.1	85.4	86.1	86.7	86.8	87.1	87.1	87.1	87.2	87.2	87.2	87.3
76.1	82.3	83.2	84.3	86.5	87.0	87.8	88.6	88.7	89.0	89.0	89.0	89.1	89.1	89.1	89.2
77.1	83.7	84.7	86.0	88.3	88.8	90.3	91.3	91.4	91.7	91.7	91.7	91.8	91.8	91.8	91.9
77.3	84.0	85.4	86.7	88.9	89.5	91.4	92.7	92.8	93.3	93.3	93.3	93.4	93.4	93.4	93.5
77.4	84.4	85.9	87.2	89.5	90.0	92.2	93.3	93.4	94.0	94.0	94.0	94.1	94.1	94.1	94.2
77.5	84.6	86.2	87.6	89.9	90.4	92.6	93.8	93.9	94.4	94.4	94.4	94.5	94.5	94.5	94.6
77.6	84.7	86.3	87.7	90.1	90.6	92.9	94.3	94.4	95.1	95.1	95.1	95.2	95.2	95.2	95.3
77.7	84.9	86.6	88.0	90.4	91.0	93.2	94.7	94.8	95.5	95.6	95.6	95.7	95.7	95.7	95.8
77.7	85.1	86.7	88.1	90.8	91.4	94.0	95.6	95.9	96.7	97.0	97.0	97.2	97.2	97.2	97.3
77.7	85.1	86.7	88.2	91.1	91.7	94.6	96.2	96.6	97.4	97.8	97.8	98.1	98.1	98.2	98.5
77.7	85.1	86.7	88.2	91.2	91.8	94.7	96.7	97.0	98.0	98.4	98.4	98.6	98.6	98.7	99.1
77.7	85.1	86.7	88.2	91.2	91.8	94.9	96.9	97.2	98.2	98.7	98.7	99.2	99.2	99.4	99.9
77.7	85.1	86.7	88.2	91.2	91.8	94.9	96.9	97.2	98.2	98.7	98.7	99.2	99.2	99.4	100.0
77.7	85.1	86.7	88.2	91.2	91.8	94.9	96.9	97.2	98.2	98.7	98.7	99.2	99.2	99.4	100.0

TOTAL NUMBER OF OBSERVATIONS 930

1
2

GLOBAL CLIMATOLOGY BRANCH
WAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

707575 GRAND FORKS AFB ND

73-62

MAR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

46.2	48.4	49.1	49.3	49.7	49.7	49.8	49.9	49.9	50.0	50.1	50.1	50.1	50.1	50.1	50.1	50.1
49.3	52.0	52.8	53.0	53.4	53.5	53.6	53.7	53.8	53.8	53.9	53.9	53.9	53.9	53.9	53.9	54.2
49.6	52.3	53.1	53.4	53.8	53.9	54.0	54.1	54.1	54.2	54.2	54.2	54.2	54.3	54.3	54.3	54.3
49.7	52.5	53.3	53.5	53.9	54.1	54.2	54.3	54.3	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.5
50.3	53.3	54.1	54.4	54.8	54.9	55.1	55.1	55.1	55.2	55.3	55.3	55.3	55.3	55.3	55.3	55.4
51.4	54.5	55.3	55.6	56.0	56.1	56.2	56.3	56.4	56.5	56.5	56.5	56.5	56.6	56.6	56.6	56.6
53.7	57.0	57.8	58.1	58.6	58.7	58.9	59.0	59.0	59.1	59.2	59.2	59.2	59.2	59.2	59.2	59.3
54.1	57.4	58.2	58.6	59.0	59.1	59.3	59.4	59.5	59.6	59.6	59.6	59.6	59.7	59.7	59.7	59.7
55.8	59.4	60.2	60.6	61.1	61.2	61.4	61.6	61.6	61.8	61.8	61.8	61.9	61.9	61.9	61.9	61.9
56.6	60.4	61.2	61.6	62.1	62.3	62.5	62.7	62.7	62.9	62.9	62.9	63.0	63.0	63.0	63.0	63.0
57.6	61.5	62.3	62.8	63.4	63.6	63.8	64.0	64.0	64.2	64.2	64.2	64.3	64.3	64.3	64.3	64.3
59.1	63.4	64.3	64.9	65.6	65.8	66.0	66.2	66.2	66.4	66.5	66.5	66.5	66.5	66.5	66.5	66.6
59.7	64.2	65.3	65.9	66.7	66.9	67.2	67.4	67.4	67.6	67.7	67.7	67.7	67.8	67.8	67.8	67.8
61.7	66.8	67.9	68.6	69.5	69.8	70.1	70.3	70.3	70.5	70.6	70.6	70.6	70.7	70.7	70.7	70.7
62.9	68.2	69.4	70.1	71.1	71.4	71.8	72.0	72.0	72.2	72.2	72.2	72.3	72.3	72.3	72.3	72.4
65.3	71.0	72.3	73.0	74.3	74.6	75.2	75.4	75.5	75.7	75.8	75.8	75.9	75.9	75.9	75.9	76.0
66.8	73.1	74.7	75.6	77.0	77.4	78.1	78.4	78.5	78.7	78.8	78.8	78.9	79.0	79.0	79.0	79.0
68.9	75.9	77.7	78.7	80.3	80.8	81.6	82.0	82.1	82.3	82.4	82.5	82.6	82.6	82.6	82.6	82.7
69.2	76.4	78.3	79.3	80.9	81.5	82.3	82.7	82.8	83.0	83.1	83.2	83.3	83.3	83.3	83.3	83.4
70.1	78.1	80.1	81.2	83.1	83.7	84.7	85.2	85.3	85.5	85.7	85.7	85.9	85.9	85.9	85.9	86.0
71.1	79.6	81.7	83.0	84.9	85.7	87.0	87.7	87.8	88.1	88.3	88.3	88.5	88.6	88.6	88.6	88.6
71.5	80.4	82.7	84.0	86.1	86.9	88.4	89.2	89.3	89.7	90.1	90.1	90.3	90.4	90.4	90.4	90.4
71.7	80.9	83.3	84.7	86.9	87.7	89.4	90.1	90.3	90.7	91.1	91.1	91.4	91.5	91.5	91.5	91.5
71.7	81.1	83.6	85.0	87.3	88.1	89.8	90.6	90.9	91.3	91.7	91.8	92.1	92.1	92.1	92.1	92.2
71.8	81.3	83.9	85.4	87.8	88.7	90.4	91.4	91.5	92.2	92.6	92.7	93.0	93.0	93.1	93.1	93.1
71.8	81.6	84.2	85.7	88.4	89.3	91.1	92.2	92.4	93.3	93.6	93.7	94.1	94.2	94.2	94.3	94.3
71.9	81.8	84.5	86.3	89.2	90.2	92.2	93.3	93.7	94.4	95.2	95.3	95.9	96.0	96.0	96.1	96.1
71.9	81.9	84.7	86.5	89.7	90.8	93.2	94.4	94.8	95.6	96.5	96.6	97.2	97.3	97.3	97.4	97.4
71.9	81.9	84.7	86.6	89.7	91.0	93.6	95.0	95.4	96.4	97.4	97.5	98.2	98.4	98.5	98.7	98.7
71.9	81.9	84.7	86.6	89.7	91.0	93.7	95.1	95.6	96.6	97.7	97.8	98.6	98.8	98.9	99.3	99.3
71.9	81.9	84.7	86.6	89.7	91.0	93.7	95.2	95.6	96.7	97.8	97.9	98.7	98.9	99.3	99.8	99.8
71.9	81.9	84.7	86.6	89.7	91.0	93.7	95.2	95.6	96.7	97.8	97.9	98.8	99.0	99.3	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 7440

54-174 04-4-5 01-A PREPARED BY THE AIR WEATHER SERVICE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-87

APP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-2400

57.3	59.3	59.6	60.0	60.3	60.3	60.8	60.9	60.9	61.3	61.0	61.0	61.0	61.0	61.0	61.0	61.0
59.1	60.3	60.9	61.3	61.7	61.7	62.1	62.2	62.2	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
59.2	60.4	61.0	61.4	61.8	61.8	62.2	62.3	62.3	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4
59.3	60.6	61.1	61.6	61.9	61.9	62.3	62.4	62.4	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
59.7	61.1	61.7	62.1	62.4	62.4	62.9	63.0	63.0	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
60.4	61.7	62.2	62.7	63.0	63.0	63.4	63.6	63.6	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7
63.6	64.8	65.3	65.8	66.1	66.1	66.7	66.8	66.8	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9
64.1	65.3	65.9	66.3	66.7	66.7	67.2	67.3	67.3	67.4	67.4	67.4	67.4	67.4	67.4	67.4	67.4
65.4	67.1	67.8	68.2	68.6	68.6	69.1	69.2	69.2	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3
66.3	68.4	69.1	69.6	69.9	69.9	70.4	70.6	70.6	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7
67.7	69.6	70.2	70.7	71.0	71.0	71.6	71.7	71.7	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
71.8	73.9	74.6	75.0	75.3	75.3	75.9	76.0	76.0	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1
72.1	74.2	74.9	75.3	75.7	75.7	76.2	76.3	76.3	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4
75.6	78.1	78.8	79.2	79.6	79.6	80.1	80.2	80.2	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3
77.6	80.6	81.2	81.9	82.3	82.3	82.9	83.0	83.0	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1
78.4	81.6	82.2	82.9	83.4	83.4	84.0	84.1	84.1	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2
79.7	83.9	84.8	85.4	86.2	86.2	87.0	87.1	87.2	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3
81.7	86.3	87.4	88.3	89.3	89.3	90.1	90.2	90.3	90.4	90.6	90.6	90.6	90.6	90.6	90.6	90.6
82.2	86.9	88.0	88.9	89.9	89.9	90.7	90.8	90.9	91.0	91.1	91.1	91.1	91.1	91.1	91.1	91.1
83.4	88.1	89.3	90.2	91.4	91.4	92.2	92.3	92.4	92.6	92.8	92.8	92.8	92.8	92.8	92.8	92.8
83.9	88.8	90.0	90.9	92.2	92.2	93.0	93.1	93.2	93.3	93.6	93.6	93.6	93.6	93.6	93.6	93.6
84.2	89.1	90.9	92.0	93.3	93.3	94.2	94.3	94.4	94.7	94.9	94.9	94.9	94.9	94.9	94.9	94.9
84.4	89.3	91.2	92.4	93.9	93.9	94.8	95.0	95.1	95.3	95.6	95.6	95.6	95.6	95.6	95.6	95.6
84.4	89.6	91.6	92.8	94.3	94.3	95.2	95.4	95.8	96.0	96.2	96.2	96.2	96.2	96.2	96.2	96.2
84.6	89.7	91.8	93.0	94.8	94.8	95.7	95.9	96.2	96.4	96.7	96.7	96.7	96.7	96.7	96.7	96.7
84.8	89.9	92.1	93.3	95.1	95.1	96.0	96.6	96.9	97.1	97.3	97.3	97.3	97.3	97.3	97.3	97.3
85.0	90.2	92.4	93.7	95.4	95.6	96.7	97.2	97.8	98.1	98.3	98.3	98.3	98.3	98.3	98.3	98.3
85.0	90.3	92.7	94.0	95.9	96.0	97.1	97.8	98.3	98.8	99.0	99.0	99.0	99.0	99.0	99.0	99.0
85.0	90.3	92.7	94.0	95.9	96.1	97.2	98.2	98.8	99.3	99.6	99.6	99.7	99.7	99.7	99.7	99.7
85.0	90.3	92.7	94.0	95.9	96.1	97.3	98.3	98.9	99.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8
85.0	90.3	92.7	94.0	95.9	96.1	97.3	98.3	98.9	99.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 900

1
2

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-0500

54.3	55.4	55.7	56.1	56.2	56.2	56.8	57.0	57.0	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.2
56.3	57.4	57.7	58.1	58.2	58.2	58.8	59.0	59.0	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.2
56.3	57.4	57.7	58.1	58.2	58.2	58.8	59.0	59.0	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.2
56.6	57.7	57.9	58.3	58.4	58.4	59.2	59.2	59.2	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.4
56.7	57.9	58.1	58.8	58.9	58.9	59.4	59.7	59.7	59.8	59.8	59.8	59.8	59.8	59.8	59.8	59.9
57.6	59.1	59.3	60.0	60.1	60.1	60.7	60.9	60.9	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.1
61.2	63.7	63.7	63.9	64.0	64.0	64.6	64.8	64.8	64.9	64.9	64.9	64.9	64.9	64.9	64.9	65.0
62.0	63.8	64.0	64.7	64.8	64.8	65.3	65.6	65.6	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.8
63.6	65.9	66.1	66.8	66.9	66.9	67.4	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.8	67.8	67.9
64.8	67.3	67.6	68.2	68.3	68.3	68.9	69.1	69.1	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.3
67.1	69.8	70.0	70.7	70.8	70.8	71.3	71.6	71.6	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.8
69.4	72.1	72.3	73.0	73.2	73.2	73.8	74.0	74.0	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.2
70.0	72.8	73.0	73.7	73.9	73.9	74.4	74.7	74.7	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.9
72.6	75.4	75.7	76.3	76.6	76.6	77.1	77.3	77.3	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.6
74.7	77.6	77.8	78.4	78.7	78.7	79.2	79.4	79.4	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.7
76.4	79.3	79.6	80.2	80.4	80.4	81.0	81.2	81.2	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.4
78.2	81.2	81.7	82.4	83.0	83.0	83.6	83.8	83.8	83.9	84.0	84.0	84.0	84.0	84.0	84.0	84.1
79.7	83.7	84.2	85.1	85.7	85.8	86.3	86.6	86.7	86.8	86.9	86.9	86.9	86.9	86.9	86.9	87.0
80.3	84.3	84.9	85.8	86.3	86.4	87.0	87.2	87.3	87.4	87.6	87.6	87.6	87.6	87.6	87.6	87.7
81.0	85.2	85.8	86.8	87.4	87.6	88.1	88.3	88.4	88.8	88.9	88.9	88.9	88.9	88.9	88.9	89.0
81.6	85.9	86.4	87.4	88.3	88.4	89.0	89.2	89.3	89.7	89.8	89.8	89.8	89.8	89.8	89.8	89.9
81.9	86.9	87.4	88.4	89.3	89.4	90.1	90.3	90.4	90.8	90.9	90.9	90.9	90.9	90.9	90.9	91.0
82.0	87.1	88.0	89.0	89.9	90.0	90.7	90.9	91.2	91.6	91.7	91.7	91.7	91.7	91.7	91.7	91.8
82.1	87.3	88.3	89.3	90.2	90.3	91.0	91.2	91.7	92.0	92.1	92.1	92.1	92.1	92.1	92.1	92.2
82.1	87.3	88.3	89.3	90.3	90.4	91.1	91.6	92.0	92.3	92.4	92.4	92.4	92.6	92.6	92.6	92.7
82.2	87.8	88.8	90.1	91.1	91.2	91.9	92.7	93.1	93.4	93.7	93.7	93.8	93.8	93.8	93.8	93.9
82.3	88.2	89.6	90.9	92.1	92.4	93.1	94.0	94.4	94.9	95.1	95.1	95.2	95.2	95.2	95.2	95.3
82.3	88.3	89.9	91.2	92.6	92.9	93.9	94.8	95.2	95.8	96.3	96.3	96.4	96.4	96.4	96.4	96.6
82.3	88.6	90.2	91.9	93.2	93.6	94.6	95.6	96.0	96.7	97.2	97.4	97.6	97.6	97.6	97.6	97.7
82.3	88.6	90.2	92.0	93.3	93.7	94.7	95.8	96.2	97.0	97.7	97.9	98.6	98.7	98.7	98.8	98.8
82.3	88.6	90.2	92.0	93.3	93.7	94.7	95.8	96.2	97.0	97.7	97.9	98.6	98.7	98.9	99.7	99.7
82.3	88.6	90.2	92.0	93.3	93.7	94.7	95.8	96.2	97.0	97.7	97.9	98.6	98.7	99.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1900-1100

48.4	50.7	51.1	51.2	51.9	51.9	52.0	52.0	52.1	52.1	52.1	52.1	52.2	52.2	52.4	52.4
53.0	55.2	55.7	55.9	56.7	56.7	56.8	56.8	56.9	56.9	56.9	56.9	57.0	57.0	57.2	57.2
53.0	55.2	55.7	55.9	56.7	56.7	56.8	56.8	56.9	56.9	56.9	56.9	57.0	57.0	57.2	57.2
53.1	55.3	55.8	56.0	56.8	56.8	56.9	56.9	57.0	57.0	57.0	57.1	57.1	57.1	57.3	57.3
53.7	56.1	56.6	56.8	57.6	57.6	57.7	57.7	57.8	57.8	57.8	57.8	57.9	57.9	58.1	58.1
54.7	57.2	57.7	57.9	58.7	58.7	58.8	58.8	58.9	58.9	58.9	58.9	59.0	59.0	59.2	59.2
58.1	60.8	61.2	61.4	62.2	62.2	62.3	62.3	62.4	62.4	62.4	62.4	62.6	62.6	62.8	62.8
58.7	61.3	61.8	62.0	62.8	62.8	62.9	62.9	63.0	63.0	63.0	63.0	63.1	63.1	63.3	63.3
61.1	64.2	64.7	64.9	65.8	65.8	65.9	65.9	66.0	66.0	66.0	66.0	66.1	66.1	66.3	66.3
61.6	64.8	65.2	65.4	66.3	66.3	66.4	66.4	66.6	66.6	66.6	66.6	66.7	66.7	66.9	66.9
63.0	66.4	67.1	67.2	68.1	68.1	68.2	68.2	68.3	68.3	68.3	68.3	68.4	68.4	68.7	68.7
64.6	68.2	69.1	69.4	70.4	70.4	70.6	70.6	70.7	70.7	70.7	70.7	70.8	70.8	71.0	71.0
65.4	69.3	70.4	70.8	71.9	71.9	72.0	72.0	72.1	72.1	72.1	72.1	72.2	72.2	72.4	72.4
66.4	70.3	71.6	72.0	73.3	73.4	73.6	73.6	73.7	73.8	73.8	73.8	73.9	73.9	74.1	74.1
66.9	70.9	72.1	72.6	73.9	74.0	74.3	74.3	74.4	74.6	74.6	74.6	74.7	74.7	74.9	74.9
69.0	73.1	74.7	75.2	77.1	77.2	77.7	77.7	77.8	77.9	77.9	77.9	78.0	78.0	78.2	78.2
70.8	75.2	76.6	77.6	79.4	79.6	80.0	80.0	80.1	80.2	80.2	80.2	80.3	80.3	80.6	80.6
72.9	77.8	79.6	80.3	82.3	82.4	82.9	82.9	83.0	83.2	83.2	83.2	83.3	83.3	83.6	83.6
73.1	78.0	79.8	80.6	82.8	82.9	83.3	83.3	83.4	83.7	83.7	83.7	83.8	83.8	84.7	84.0
74.9	80.1	81.9	82.8	85.1	85.3	86.0	86.2	86.3	86.6	86.6	86.6	86.7	86.7	86.9	86.9
76.4	82.9	84.9	85.9	88.4	88.8	89.6	89.9	90.0	90.2	90.2	90.2	90.3	90.3	90.6	90.6
77.0	83.6	85.7	86.7	89.6	90.0	91.1	91.4	91.6	91.8	91.8	91.8	91.9	91.9	92.1	92.1
77.2	84.0	86.1	87.1	90.0	90.4	91.6	92.2	92.3	92.7	92.7	92.7	92.8	92.8	93.0	93.0
77.4	84.4	86.8	87.8	90.8	91.2	92.3	93.0	93.1	93.4	93.4	93.4	93.6	93.6	93.8	93.8
77.8	84.9	87.3	88.4	91.8	92.3	93.4	94.1	94.2	94.7	94.7	94.7	94.9	94.9	95.1	95.1
77.9	85.1	87.7	88.9	92.4	93.1	94.2	94.9	95.0	95.4	95.7	95.7	95.9	95.9	96.3	96.4
77.9	85.2	87.8	89.0	92.8	93.4	95.2	96.1	96.2	96.7	96.9	96.9	97.1	97.1	97.6	97.7
77.9	85.3	88.1	89.4	93.2	94.0	96.0	97.2	97.3	97.8	98.0	98.0	98.3	98.3	98.8	98.9
77.9	85.3	88.1	89.4	93.3	94.1	96.2	97.4	97.6	98.2	98.6	98.6	98.9	99.0	99.6	99.7
77.9	85.3	88.1	89.4	93.3	94.1	96.2	97.4	97.7	98.3	98.8	98.8	99.1	99.2	99.9	99.9
77.9	85.3	88.1	89.4	93.3	94.1	96.2	97.4	97.7	98.3	98.8	98.8	99.1	99.2	99.9	100.0
77.9	85.3	88.1	89.4	93.3	94.1	96.2	97.4	97.7	98.3	98.8	98.8	99.1	99.2	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1200-1400

47.1	48.7	48.7	48.7	48.9	48.9	49.4	49.7	49.7	49.7	49.7	49.7	49.8	49.8	49.8	49.8
52.2	54.2	54.2	54.2	54.4	54.4	55.0	55.2	55.2	55.2	55.2	55.2	55.3	55.3	55.3	55.3
52.3	54.3	54.3	54.3	54.6	54.6	55.1	55.3	55.3	55.3	55.3	55.3	55.4	55.4	55.4	55.4
52.4	54.4	54.4	54.4	54.7	54.7	55.2	55.4	55.4	55.4	55.4	55.4	55.6	55.6	55.6	55.6
52.6	54.8	54.8	54.8	55.0	55.0	55.6	55.8	55.8	55.8	55.8	55.8	55.9	55.9	55.9	55.9
54.7	57.2	57.2	57.2	57.4	57.4	58.0	58.2	58.2	58.2	58.2	58.2	58.3	58.3	58.3	58.3
57.9	60.4	60.4	60.4	60.7	60.7	61.2	61.4	61.4	61.4	61.4	61.4	61.6	61.6	61.6	61.6
58.3	61.1	61.1	61.1	61.3	61.3	61.9	62.1	62.1	62.1	62.1	62.1	62.2	62.2	62.2	62.2
61.1	64.0	64.2	64.3	64.6	64.6	65.1	65.3	65.3	65.3	65.3	65.3	65.4	65.4	65.4	65.4
62.0	64.9	65.1	65.3	65.6	65.6	66.1	66.3	66.3	66.3	66.3	66.3	66.4	66.4	66.4	66.4
62.9	66.0	66.2	66.4	66.7	66.7	67.2	67.4	67.4	67.4	67.4	67.4	67.6	67.6	67.6	67.6
64.4	67.6	67.8	68.1	68.4	68.4	69.0	69.2	69.2	69.2	69.2	69.2	69.3	69.3	69.3	69.3
64.9	68.3	68.7	69.0	69.3	69.3	69.9	70.1	70.1	70.1	70.1	70.1	70.2	70.2	70.2	70.2
67.1	70.8	71.1	71.3	71.9	71.9	72.4	72.7	72.7	72.7	72.7	72.7	72.8	72.8	72.8	72.8
68.6	72.4	72.8	73.4	73.9	73.9	74.4	74.7	74.7	74.7	74.7	74.7	74.8	74.8	74.8	74.8
71.6	76.1	76.6	77.3	77.8	77.8	78.3	78.6	78.6	78.6	78.6	78.6	78.7	78.7	78.7	78.7
73.8	79.3	79.9	80.8	81.2	81.2	81.8	82.0	82.0	82.0	82.0	82.0	82.1	82.1	82.1	82.1
77.1	83.0	83.7	84.7	85.4	85.4	86.0	86.2	86.2	86.3	86.3	86.3	86.4	86.4	86.4	86.4
77.6	83.6	84.2	85.2	86.1	86.2	86.8	87.0	87.0	87.1	87.1	87.1	87.2	87.2	87.2	87.2
78.8	85.2	85.9	87.1	88.0	88.1	88.9	89.1	89.1	89.2	89.2	89.2	89.3	89.3	89.3	89.3
79.9	87.1	88.3	89.7	90.8	91.0	91.8	92.0	92.1	92.3	92.3	92.3	92.4	92.4	92.4	92.4
80.0	87.2	88.4	89.8	91.0	91.2	92.2	92.4	92.6	92.8	92.8	92.8	92.9	92.9	92.9	92.9
80.2	88.0	89.2	90.8	92.2	92.4	93.4	93.7	93.9	94.1	94.1	94.1	94.2	94.2	94.2	94.2
80.4	88.2	89.6	91.1	92.6	92.8	93.8	94.1	94.4	94.7	94.7	94.7	94.8	94.8	94.8	94.8
80.6	88.8	90.3	92.0	93.6	93.8	94.9	95.2	95.6	95.8	95.8	95.8	96.1	96.1	96.1	96.1
80.6	89.0	90.6	92.2	93.8	94.0	95.3	95.7	96.0	96.4	96.4	96.4	96.8	96.8	96.8	96.8
80.6	89.1	90.7	92.3	93.9	94.1	95.9	96.4	96.9	97.3	97.3	97.3	97.7	97.7	97.7	97.7
80.9	89.7	91.4	93.1	94.7	95.0	96.8	97.4	97.9	98.3	98.3	98.3	98.7	98.7	98.7	98.7
80.9	89.7	91.4	93.1	94.7	95.0	96.9	97.7	98.1	98.6	98.6	98.6	98.9	98.9	98.9	98.9
80.9	89.7	91.4	93.1	94.7	95.0	96.9	97.8	98.2	98.7	98.8	98.8	99.3	99.3	99.6	100.0
80.9	89.7	91.4	93.1	94.7	95.0	96.9	97.8	98.2	98.7	98.8	98.8	99.3	99.3	99.6	100.0
80.9	89.7	91.4	93.1	94.7	95.0	96.9	97.8	98.2	98.7	98.8	98.8	99.3	99.3	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 73-82 GRAND FORKS AFB ND 73-82

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1700

47.6	48.5	48.9	49.3	49.7	49.7	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1	50.1
53.3	54.5	55.1	55.5	56.0	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3
53.7	54.9	55.5	56.0	56.4	56.4	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
54.4	56.1	56.6	57.2	57.7	57.7	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1
56.7	57.6	58.2	58.7	59.3	59.3	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
59.1	61.1	61.7	62.3	63.0	63.0	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3
59.4	61.4	62.1	62.6	63.3	63.3	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6	63.6
61.5	63.5	64.3	64.8	65.5	65.5	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
62.8	64.8	65.7	66.3	67.0	67.0	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
64.4	66.5	67.4	68.0	68.6	68.6	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
67.0	69.3	70.2	70.7	71.4	71.4	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7
67.4	70.1	71.0	71.5	72.2	72.2	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5
69.3	72.3	73.4	74.1	75.0	75.0	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3
72.5	75.8	77.0	77.6	78.5	78.5	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
76.5	79.9	81.1	81.8	82.6	82.6	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0
79.1	82.8	84.2	84.9	86.1	86.1	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5
81.2	85.5	87.1	87.9	89.3	89.3	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
81.6	86.1	87.7	88.4	90.1	90.1	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7
83.0	87.7	89.2	90.0	91.8	91.8	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.4
83.5	88.9	90.7	91.7	93.4	93.4	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1
83.8	89.2	91.0	92.0	93.8	93.8	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
84.1	89.9	91.7	92.8	94.7	94.7	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
84.1	89.9	91.7	92.8	94.7	94.8	95.9	95.9	95.9	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0
84.2	90.0	91.8	92.9	94.8	94.9	96.1	96.2	96.2	96.3	96.3	96.3	96.3	96.3	96.4	96.4	96.4
84.3	90.1	92.0	93.1	95.0	95.3	96.8	96.9	97.0	97.3	97.4	97.4	97.4	97.4	97.6	97.6	97.6
84.3	90.1	92.0	93.1	95.1	95.4	97.2	97.4	97.7	98.1	98.2	98.2	98.3	98.3	98.3	98.3	98.3
84.3	90.1	92.1	93.2	95.3	95.9	97.8	98.0	98.2	98.8	98.9	98.9	99.0	99.0	99.0	99.0	99.0
84.3	90.1	92.1	93.2	95.3	95.9	97.8	98.1	98.4	99.0	99.1	99.2	99.3	99.3	99.3	99.3	99.3
84.3	90.1	92.1	93.2	95.3	95.9	98.0	98.3	98.7	99.3	99.4	99.6	99.7	99.7	99.7	99.8	100.0
84.3	90.1	92.1	93.2	95.3	95.9	98.0	98.3	98.7	99.3	99.4	99.6	99.7	99.7	99.7	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 899

USAF ETAC 0-14-5 (01) ALL PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1800-2000

51.3	52.4	53.6	53.6	53.8	53.8	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9
56.6	57.8	59.1	59.0	59.2	59.2	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3	59.3
56.8	58.0	59.2	59.2	59.4	59.4	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
56.9	58.1	59.3	59.3	59.6	59.6	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
57.2	59.3	60.2	60.2	60.6	60.6	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7	60.7
59.4	61.2	62.4	62.4	62.8	62.8	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9
62.4	65.0	66.7	66.7	67.1	67.1	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
63.3	65.9	67.6	67.6	68.0	68.0	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
66.0	68.6	70.2	70.2	70.7	70.7	70.8	70.8	70.9	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8
66.9	69.4	71.1	71.1	71.6	71.6	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7
68.3	70.9	72.6	72.6	73.0	73.0	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
70.3	73.3	75.1	75.1	75.6	75.6	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7
71.3	74.1	75.8	75.9	76.3	76.3	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4	76.4
73.2	77.1	78.8	78.9	79.4	79.4	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6
76.3	80.7	82.3	82.4	83.0	83.0	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1
79.7	84.2	85.9	86.0	86.6	86.6	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7
81.4	86.1	87.9	88.2	88.9	89.0	89.2	89.2	89.2	89.3	89.3	89.3	89.3	89.3	89.3	89.3	89.3
82.7	87.4	89.2	89.8	90.6	90.7	91.0	91.0	91.0	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2
82.7	87.4	89.2	89.8	90.6	90.7	91.0	91.0	91.0	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2
83.7	88.8	90.7	91.2	92.3	92.7	93.2	93.2	93.2	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6
84.2	89.4	91.4	92.0	93.1	93.6	94.2	94.2	94.2	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
84.3	89.7	91.8	92.4	93.7	94.1	94.9	94.9	94.9	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3
84.4	89.8	92.3	92.7	94.2	94.9	95.7	95.7	95.7	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
84.4	89.9	92.2	92.9	94.4	95.1	95.9	95.9	95.9	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
84.4	89.9	92.2	92.9	94.4	95.1	95.9	95.9	95.9	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
84.7	90.1	92.7	93.3	95.0	95.8	96.6	96.6	96.6	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
84.7	90.1	92.7	93.3	95.1	96.0	96.9	97.1	97.1	97.8	97.8	97.8	97.8	97.9	97.9	97.9	97.9
84.7	90.2	92.8	93.4	95.2	96.1	97.4	97.8	97.8	98.9	98.9	98.9	98.9	99.0	99.0	99.0	99.0
84.7	90.2	92.8	93.4	95.2	96.1	97.8	98.1	98.1	99.3	99.3	99.3	99.4	99.4	99.4	99.4	99.4
84.7	90.2	92.8	93.4	95.2	96.1	97.8	98.1	98.1	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.6
84.7	90.2	92.8	93.4	95.2	96.1	97.8	98.1	98.1	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 970

1
2

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APR

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

57.1	58.2	58.2	58.3	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
60.4	61.6	61.6	61.7	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1
60.4	61.6	61.6	61.7	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1
60.7	61.8	61.8	61.9	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
61.7	63.1	63.1	63.2	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7
62.6	64.0	64.0	64.1	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6
66.1	67.8	67.9	68.0	68.6	68.6	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7
66.7	68.3	68.4	68.8	69.3	69.3	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
68.9	70.6	70.7	71.0	71.6	71.6	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7
70.6	72.2	72.3	72.7	73.2	73.2	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3	73.3
71.4	73.1	73.2	73.6	74.1	74.1	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2
73.8	75.7	75.8	76.1	76.7	76.7	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8
74.2	76.1	76.2	76.6	77.1	77.1	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
77.1	79.6	79.7	80.0	80.7	80.7	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8
80.2	83.0	83.1	83.9	84.6	84.6	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7
82.1	85.4	85.6	86.3	87.0	87.0	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1
84.3	87.8	88.1	88.9	89.8	89.9	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
85.8	89.6	89.9	90.7	91.7	91.8	91.9	91.9	91.9	92.0	92.0	92.0	92.0	92.0	92.0	92.0
85.8	89.7	90.0	90.8	91.8	91.9	92.0	92.0	92.0	92.1	92.1	92.1	92.1	92.1	92.1	92.1
86.8	90.9	91.4	92.2	93.7	94.0	94.1	94.1	94.1	94.3	94.3	94.3	94.3	94.3	94.3	94.3
87.3	91.9	92.6	93.3	94.8	95.1	95.2	95.3	95.3	95.6	95.6	95.6	95.6	95.6	95.6	95.6
87.4	92.3	93.7	93.8	95.2	95.6	95.7	95.9	95.9	96.1	96.1	96.1	96.1	96.1	96.1	96.1
87.7	92.6	93.3	94.1	95.6	95.9	96.0	96.2	96.2	96.4	96.4	96.4	96.4	96.4	96.4	96.4
87.7	92.9	93.8	94.6	96.0	96.3	96.4	96.9	96.9	97.2	97.2	97.2	97.2	97.2	97.2	97.2
88.0	93.3	94.3	95.1	96.6	96.9	97.0	97.4	97.6	97.9	97.9	97.9	97.9	97.9	97.9	97.9
88.0	93.3	94.3	95.1	96.6	97.1	97.2	97.7	97.8	98.1	98.2	98.2	98.2	98.2	98.2	98.2
88.0	93.3	94.3	95.1	96.6	97.1	97.2	97.7	97.9	98.2	98.3	98.3	98.3	98.3	98.3	98.3
88.0	93.3	94.3	95.1	96.7	97.2	97.7	98.1	98.3	98.7	98.8	98.8	98.8	98.8	98.8	98.8
88.0	93.3	94.3	95.1	96.7	97.2	97.9	98.4	98.7	99.3	99.4	99.4	99.4	99.4	99.4	99.4
88.0	93.3	94.3	95.1	96.7	97.2	98.0	98.6	98.8	99.4	99.6	99.6	99.6	99.6	99.6	99.6
88.0	93.3	94.3	95.1	96.7	97.2	98.0	98.6	98.8	99.4	99.6	99.6	99.6	99.6	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-45 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4 0-4

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

APP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

51.3	52.7	53.2	53.4	53.8	53.8	54.1	54.1	54.2	54.2	54.3	54.3	54.3	54.3	54.4	54.4
55.1	56.7	57.2	57.4	57.9	57.9	58.1	58.2	58.2	58.3	58.3	58.3	58.4	58.4	58.4	58.5
55.2	56.8	57.3	57.5	57.9	57.9	58.2	58.3	58.3	58.4	58.4	58.4	58.4	58.4	58.5	58.5
55.4	57.0	57.5	57.7	58.2	58.2	58.4	58.5	58.5	58.6	58.6	58.6	58.7	58.7	58.7	58.8
55.9	57.7	58.2	58.5	59.0	59.0	59.2	59.3	59.3	59.4	59.4	59.4	59.5	59.5	59.5	59.6
57.1	59.1	59.6	59.9	60.3	60.3	60.6	60.7	60.7	60.8	60.8	60.8	60.8	60.8	60.9	60.9
60.5	62.7	63.3	63.6	64.1	64.1	64.4	64.4	64.5	64.5	64.6	64.6	64.6	64.6	64.7	64.7
61.1	63.3	63.9	64.2	64.7	64.7	65.0	65.1	65.1	65.2	65.2	65.2	65.2	65.2	65.3	65.3
63.4	65.8	66.4	66.8	67.3	67.3	67.6	67.7	67.7	67.8	67.8	67.8	67.8	67.8	67.9	67.9
64.5	67.0	67.7	68.0	68.6	68.6	68.9	68.9	68.9	69.0	69.0	69.0	69.1	69.1	69.2	69.2
66.0	68.7	69.3	69.7	70.2	70.2	70.5	70.6	70.6	70.7	70.7	70.7	70.8	70.8	70.8	70.9
68.3	71.2	72.0	72.4	73.0	73.0	73.2	73.3	73.3	73.4	73.4	73.4	73.5	73.5	73.5	73.6
68.9	72.0	72.7	73.2	73.8	73.8	74.0	74.1	74.1	74.2	74.2	74.2	74.3	74.3	74.4	74.4
71.1	74.5	75.4	75.9	76.5	76.6	76.9	76.9	76.9	77.0	77.1	77.1	77.1	77.1	77.2	77.2
73.2	76.8	77.7	78.3	79.0	79.0	79.3	79.4	79.4	79.5	79.5	79.5	79.6	79.6	79.7	79.7
75.5	79.4	80.3	80.9	81.7	81.8	82.1	82.2	82.2	82.3	82.3	82.3	82.4	82.4	82.5	82.5
77.4	81.7	82.7	83.5	84.4	84.5	84.9	84.9	85.0	85.1	85.1	85.1	85.2	85.2	85.3	85.3
79.3	84.0	85.2	86.0	87.2	87.2	87.7	87.8	87.8	88.0	88.1	88.1	88.1	88.1	88.2	88.2
79.6	84.4	85.6	86.4	87.6	87.7	88.2	88.3	88.3	88.5	88.6	88.6	88.6	88.6	88.7	88.7
80.9	85.9	87.1	88.0	89.5	89.6	90.2	90.4	90.4	90.7	90.7	90.7	90.8	90.8	90.9	90.9
81.6	87.1	88.6	89.5	91.1	91.3	91.9	92.1	92.1	92.4	92.5	92.5	92.6	92.6	92.6	92.7
81.9	87.6	89.1	90.2	91.8	92.1	92.8	93.0	93.0	93.3	93.4	93.4	93.5	93.5	93.6	93.6
82.1	88.0	89.6	90.7	92.5	92.7	93.6	93.8	93.9	94.3	94.3	94.3	94.4	94.4	94.5	94.5
82.2	88.2	90.3	91.1	92.9	93.2	94.0	94.3	94.5	94.8	94.9	94.9	95.0	95.0	95.1	95.1
82.4	88.5	90.3	91.5	93.3	93.7	94.5	94.8	95.1	95.4	95.5	95.5	95.7	95.7	95.8	95.8
82.5	88.6	90.6	91.8	93.7	94.1	95.0	95.5	95.7	96.1	96.3	96.3	96.5	96.5	96.6	96.7
82.6	88.8	90.8	92.0	94.1	94.5	95.7	96.2	96.5	97.0	97.2	97.2	97.4	97.4	97.5	97.5
82.6	89.0	91.1	92.3	94.5	95.0	96.4	97.0	97.3	97.9	98.1	98.1	98.3	98.3	98.4	98.5
82.6	89.0	91.2	92.5	94.6	95.2	96.6	97.3	97.6	98.3	98.6	98.6	98.8	98.9	99.0	99.1
82.6	89.0	91.2	92.5	94.6	95.2	96.7	97.4	97.7	98.5	98.8	98.9	99.2	99.3	99.5	99.6
82.6	89.0	91.2	92.5	94.6	95.2	96.7	97.5	97.8	98.5	98.8	98.9	99.2	99.3	99.6	99.9
82.6	89.0	91.2	92.5	94.6	95.2	96.7	97.5	97.8	98.5	98.8	98.9	99.2	99.3	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 7198

1
2

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-2200

59.9	61.5	61.5	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6
63.4	65.3	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4
63.7	65.5	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6
63.8	65.6	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7
64.4	66.6	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7
65.1	67.2	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
69.7	72.0	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2
69.7	72.0	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2
72.7	75.2	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3
75.2	77.8	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0
76.7	79.6	79.7	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8
81.2	83.5	83.8	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
80.5	84.0	84.2	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
83.2	87.8	88.1	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5
83.4	88.2	88.4	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9
85.1	90.0	90.2	90.8	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0
86.2	91.5	91.7	92.3	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
86.8	92.2	92.4	92.9	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2
86.8	92.2	92.4	92.9	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2	93.2
87.3	92.8	93.0	93.7	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0
87.7	93.7	93.9	94.5	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
88.5	94.8	95.1	95.9	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
88.9	95.3	95.6	96.5	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
88.9	95.3	95.6	96.6	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1
89.0	95.5	95.8	96.8	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
89.2	95.7	96.3	97.4	98.0	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3
89.4	95.8	96.7	97.7	98.6	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9
89.4	95.9	96.9	98.0	99.1	99.5	99.5	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
89.4	95.9	96.9	98.0	99.1	99.5	99.5	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
89.4	95.9	96.9	98.0	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
89.4	95.9	96.9	98.0	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
89.4	95.9	96.9	98.0	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-0500

54.3	56.5	56.9	57.0	57.0	57.0	57.0	57.0	57.0	57.1	57.1	57.1	57.1	57.1	57.1	57.1
59.2	61.6	61.9	62.2	62.2	62.2	62.2	62.2	62.2	62.3	62.3	62.3	62.3	62.3	62.3	62.3
59.6	61.9	62.3	62.5	62.5	62.5	62.5	62.5	62.5	62.6	62.6	62.6	62.6	62.6	62.6	62.6
59.9	62.3	62.6	62.8	62.8	62.8	62.8	62.8	62.8	62.9	62.9	62.9	62.9	62.9	62.9	62.9
61.1	63.4	63.8	64.0	64.0	64.0	64.0	64.0	64.0	64.1	64.1	64.1	64.1	64.1	64.1	64.1
62.4	64.8	65.2	65.4	65.4	65.4	65.4	65.4	65.4	65.5	65.5	65.5	65.5	65.5	65.5	65.5
65.9	68.5	68.8	69.1	69.1	69.1	69.1	69.1	69.1	69.2	69.2	69.2	69.2	69.2	69.2	69.2
66.8	69.4	69.7	70.0	70.0	70.0	70.0	70.0	70.0	70.1	70.1	70.1	70.1	70.1	70.1	70.1
69.2	71.9	72.4	72.7	72.7	72.7	72.7	72.7	72.7	72.8	72.8	72.8	72.8	72.8	72.8	72.8
71.5	74.5	74.9	75.4	75.4	75.4	75.4	75.4	75.4	75.5	75.5	75.5	75.5	75.5	75.5	75.5
73.2	76.2	76.7	77.1	77.1	77.1	77.1	77.1	77.1	77.2	77.2	77.2	77.2	77.2	77.2	77.2
76.5	79.9	80.4	81.1	81.1	81.1	81.1	81.1	81.1	81.2	81.2	81.2	81.2	81.2	81.2	81.2
76.9	80.3	80.9	81.5	81.5	81.5	81.5	81.5	81.5	81.6	81.6	81.6	81.6	81.6	81.6	81.6
79.9	84.0	84.5	85.3	85.3	85.3	85.3	85.3	85.3	85.4	85.4	85.4	85.4	85.4	85.4	85.4
81.3	85.5	86.0	86.8	86.9	86.9	86.9	86.9	86.9	87.0	87.0	87.0	87.0	87.0	87.0	87.0
83.2	87.6	88.2	88.9	89.2	89.2	89.2	89.2	89.2	89.4	89.4	89.4	89.4	89.4	89.4	89.4
83.9	88.5	89.1	89.9	90.2	90.2	90.2	90.2	90.2	90.3	90.3	90.3	90.3	90.3	90.3	90.3
85.2	90.2	90.9	91.7	92.0	92.0	92.0	92.0	92.0	92.2	92.2	92.2	92.2	92.2	92.2	92.2
85.3	90.3	91.0	91.8	92.2	92.2	92.2	92.2	92.2	92.3	92.3	92.3	92.3	92.3	92.3	92.3
86.1	91.3	91.9	92.8	93.1	93.1	93.2	93.2	93.2	93.3	93.3	93.3	93.3	93.3	93.3	93.3
86.8	91.9	92.7	93.5	93.9	93.9	94.0	94.0	94.0	94.1	94.1	94.1	94.1	94.1	94.1	94.1
87.7	93.0	93.9	94.7	95.1	95.1	95.2	95.2	95.2	95.3	95.3	95.3	95.3	95.3	95.3	95.3
88.1	93.3	94.3	95.2	95.5	95.5	95.6	95.6	95.6	95.7	95.7	95.7	95.7	95.7	95.7	95.7
88.1	93.3	94.4	95.3	95.7	95.8	96.1	96.1	96.1	96.2	96.2	96.2	96.2	96.2	96.2	96.2
88.2	93.4	94.6	95.6	96.0	96.1	96.5	96.5	96.5	96.6	96.6	96.6	96.6	96.6	96.6	96.6
88.2	93.4	94.6	95.6	96.0	96.2	96.6	96.6	96.6	96.7	96.7	96.7	96.7	96.7	96.7	96.7
88.3	93.8	95.1	96.5	97.0	97.3	97.6	97.6	97.6	97.7	97.7	97.7	97.7	97.7	97.7	97.7
88.3	94.0	95.4	97.1	98.0	98.3	98.6	98.6	98.6	98.8	98.8	98.8	98.8	98.8	98.8	98.8
88.3	94.0	95.4	97.1	98.1	98.4	98.7	98.8	98.8	99.0	99.0	99.0	99.0	99.0	99.0	99.0
88.3	94.0	95.4	97.1	98.1	98.4	98.7	99.4	99.5	99.7	99.8	99.8	99.9	99.9	99.9	99.9
88.3	94.0	95.4	97.1	98.1	98.4	98.7	99.4	99.5	99.8	99.9	99.9	100.0	100.0	100.0	100.0
88.3	94.0	95.4	97.1	98.1	98.4	98.7	99.4	99.5	99.8	99.9	99.9	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-0800

51.5	54.1	55.1	55.5	55.7	55.7	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8
56.1	58.8	59.8	60.2	60.4	60.4	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5
56.6	59.4	60.3	60.8	61.0	61.0	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
56.8	59.6	60.5	61.0	61.2	61.2	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3
57.4	60.2	61.2	61.6	61.8	61.8	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9	61.9
58.2	61.0	61.9	62.4	62.6	62.6	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
61.4	64.3	65.2	66.3	66.7	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
61.7	65.4	66.5	66.9	67.2	67.2	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
65.4	69.7	71.0	71.4	71.7	71.7	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
66.9	71.5	72.9	73.3	73.8	73.8	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9
67.8	72.8	74.5	74.9	75.4	75.4	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5
70.5	76.6	78.4	78.8	79.4	79.4	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6
71.5	77.5	79.5	79.9	80.4	80.4	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6
74.3	80.6	82.8	83.5	84.1	84.1	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3
75.1	81.9	84.1	84.8	85.4	85.4	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6
76.1	83.2	85.5	86.3	87.0	87.0	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2
77.2	84.4	86.7	87.5	88.2	88.2	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4
78.2	85.4	87.6	88.6	89.2	89.2	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
78.9	86.1	88.4	89.8	90.4	90.4	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8
79.7	87.0	89.2	90.8	91.4	91.4	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7
80.4	88.1	90.4	91.9	92.6	92.7	93.1	93.1	93.1	93.2	93.2	93.2	93.2	93.2	93.2	93.2
81.4	89.2	91.8	93.3	94.1	94.2	94.7	94.7	94.7	94.8	94.8	94.8	94.8	94.8	94.8	94.8
81.4	89.2	91.8	93.3	94.1	94.2	94.7	94.7	94.7	94.8	94.8	94.8	94.8	94.8	94.8	94.8
81.9	89.8	92.4	93.9	94.6	94.9	95.5	95.5	95.5	95.6	95.6	95.6	95.6	95.6	95.6	95.6
82.3	90.1	92.7	94.2	95.1	95.4	95.9	95.9	95.9	96.0	96.0	96.0	96.0	96.0	96.0	96.0
82.7	90.8	93.4	95.1	95.9	96.3	97.1	97.1	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2
82.9	91.3	94.0	95.6	96.7	97.1	97.8	97.8	97.8	98.0	98.2	98.2	98.2	98.2	98.2	98.2
82.9	91.3	94.0	95.8	97.2	97.6	98.5	98.5	98.5	98.7	98.9	99.0	99.1	99.1	99.1	99.1
82.9	91.3	94.0	95.8	97.2	97.6	98.5	98.6	98.6	98.8	99.0	99.1	99.4	99.4	99.4	99.4
82.9	91.3	94.0	95.8	97.5	98.0	98.8	99.0	99.0	99.2	99.5	99.6	99.8	99.8	99.9	99.9
82.9	91.3	94.0	95.8	97.5	98.0	98.8	99.0	99.0	99.2	99.5	99.6	99.9	99.9	100.0	100.0
82.9	91.3	94.0	95.8	97.5	98.0	98.8	99.0	99.0	99.2	99.5	99.6	99.9	99.9	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

CEILING VERSUS VISIBILITY

73-82

4AY

1210-1410

[illegible]TOTAL NUMBER OF OBSERVATIONS 932

SA 4747 0-14-5 01 A

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1700

42.7	44.5	44.5	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9	44.9
51.2	53.8	53.9	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
51.3	54.4	54.5	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9	54.9
52.1	54.6	54.7	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2
53.5	56.1	56.2	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
54.3	57.4	57.6	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1
58.1	61.1	61.2	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6
59.1	62.1	62.4	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8
61.4	64.5	64.8	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5
63.2	66.3	66.7	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
64.7	68.2	68.5	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1
69.5	73.2	73.5	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2
71.4	74.2	74.5	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2
75.9	80.4	80.9	81.7	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
78.2	82.7	83.3	84.2	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3
82.1	86.8	87.4	88.3	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5
85.4	90.3	91.1	91.9	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2
86.9	91.9	92.7	93.7	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9
87.2	92.3	93.1	94.1	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2
87.5	92.7	93.7	94.6	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8
88.4	93.7	94.6	95.7	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9
89.1	95.1	96.1	97.1	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
89.1	95.5	96.6	97.7	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
89.4	95.8	96.9	98.1	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
89.4	95.8	96.9	98.2	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
89.4	95.9	97.0	98.3	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
89.4	95.9	97.0	98.3	99.1	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
89.4	95.9	97.1	98.4	99.5	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
89.4	95.9	97.1	98.4	99.5	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
89.4	95.9	97.1	98.4	99.5	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
89.4	95.9	97.1	98.4	99.5	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8

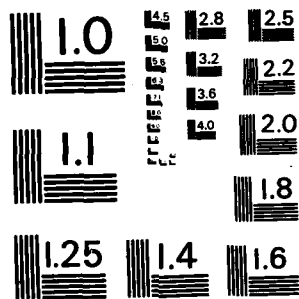
TOTAL NUMBER OF OBSERVATIONS 932

UNCLASSIFIED

TECHNICAL APPLICATIONS CENTER SCOTT A. APR 83
USAFETAC/DS/83/011 SBI-AD-E850 389 F/G

NL

F/G 4/2



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1000-2000

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .3	≥ .2	≥ .1	≥ .05	≥ .01	≥ .00
NO CEILING	48.5	51.6	51.7	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8
≥ 20000	58.0	61.6	61.7	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8
≥ 18000	58.6	62.3	62.4	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5
≥ 16000	58.7	62.4	62.5	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
≥ 14000	60.4	64.1	64.2	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3
≥ 12000	61.3	65.2	65.3	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4
≥ 10000	64.7	68.7	68.8	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9
≥ 9000	65.7	69.7	69.8	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9
≥ 8000	67.8	72.0	72.2	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4
≥ 7000	70.3	74.6	74.7	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
≥ 6000	72.0	76.8	77.0	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
≥ 5000	75.7	80.6	81.0	81.2	81.3	81.3	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4
≥ 4500	76.9	81.9	82.3	82.5	82.6	82.6	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7
≥ 4000	80.0	85.5	85.9	86.2	86.5	86.5	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
≥ 3500	81.3	87.2	88.0	88.4	88.6	88.6	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7
≥ 3000	83.3	89.8	90.9	91.4	91.7	91.7	91.8	91.8	91.8	91.8	91.8	91.8	91.8	91.8	91.8	91.8
≥ 2500	85.3	91.8	92.9	93.4	93.8	93.8	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9
≥ 2000	85.6	92.4	93.4	94.0	94.3	94.3	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4
≥ 1800	85.6	92.5	93.5	94.1	94.4	94.4	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5
≥ 1500	86.1	93.3	94.4	94.9	95.3	95.3	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.4
≥ 1200	86.3	94.1	95.2	95.7	96.0	96.0	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
≥ 1000	86.6	95.1	96.6	97.1	97.5	97.5	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6
≥ 900	86.6	95.3	96.8	97.3	97.7	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
≥ 800	86.6	95.3	96.8	97.3	97.7	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
≥ 700	86.6	95.3	96.8	97.3	98.0	98.0	98.2	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7
≥ 600	86.7	95.6	97.2	97.7	98.6	98.6	98.8	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
≥ 500	86.7	95.8	97.4	98.1	98.9	99.1	99.4	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 400	86.7	95.9	97.5	98.2	99.0	99.2	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 300	86.7	95.9	97.5	98.2	99.0	99.2	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 200	86.7	95.9	97.5	98.2	99.0	99.2	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 100	86.7	95.9	97.5	98.2	99.0	99.2	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 0	86.7	95.9	97.5	98.2	99.0	99.2	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

2100-2300

CEILING FEET	VISIBILITY - STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ 0.5	≥ 0.25	≥ 0.15	≥ 0.1	≥ 0.05	≥ 0.025	≥ 0.01
NO CEILING	57.6	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4
≥ 24000	63.4	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6
≥ 18000	63.9	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
≥ 15000	64.0	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
≥ 14000	65.5	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6
≥ 12000	66.7	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9
≥ 10000	70.1	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4
≥ 9000	70.5	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9	73.9
≥ 8000	73.4	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1	77.1
≥ 7000	76.0	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8
≥ 6000	77.7	81.6	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
≥ 5000	81.0	84.8	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1
≥ 4500	81.7	85.7	85.9	85.9	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1
≥ 4000	83.8	88.5	88.7	88.7	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9
≥ 3500	84.6	89.4	89.6	89.6	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8
≥ 3000	85.7	90.6	90.9	91.0	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7
≥ 2500	87.2	92.2	92.4	92.5	93.2	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3
≥ 2000	88.5	93.4	93.7	93.8	94.5	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6
≥ 1800	88.6	93.5	93.8	93.9	94.6	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
≥ 1500	88.8	93.9	94.1	94.2	94.9	95.1	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2
≥ 1200	89.0	94.6	94.8	94.9	95.7	95.8	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9
≥ 1000	89.4	95.5	95.9	96.0	96.8	96.9	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
≥ 900	89.6	95.7	96.1	96.2	97.0	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
≥ 800	89.8	95.9	96.3	96.5	97.2	97.4	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5
≥ 700	89.8	95.9	96.3	96.5	97.3	97.7	97.8	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
≥ 600	89.8	96.2	96.7	96.9	97.7	98.2	98.3	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4
≥ 500	89.8	96.3	97.0	97.3	98.4	98.8	98.9	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
≥ 400	89.8	96.7	97.3	97.7	98.9	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 300	89.8	96.7	97.3	97.7	98.9	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 200	89.8	96.7	97.3	97.7	98.9	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 100	89.8	96.7	97.3	97.7	98.9	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 0	89.8	96.7	97.3	97.7	98.9	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

MAY

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2	≥2	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	51.2	53.8	54.0	54.2	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
≥ 20000	57.6	60.6	60.8	61.0	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
≥ 18000	58.0	61.0	61.3	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5	61.5
≥ 15000	58.3	61.2	61.5	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7
≥ 14000	59.4	62.4	62.7	62.9	62.9	62.9	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
≥ 12000	60.4	63.5	63.7	63.9	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0	64.0
≥ 10000	63.7	67.0	67.3	67.5	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6
≥ 9000	64.3	67.7	67.9	68.1	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3
≥ 8000	66.9	70.6	70.9	71.1	71.2	71.2	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
≥ 7000	69.0	72.8	73.2	73.4	73.5	73.5	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6
≥ 6000	70.5	74.5	74.9	75.2	75.3	75.3	75.3	75.3	75.3	75.4	75.4	75.4	75.4	75.4	75.4	75.4
≥ 5000	73.9	78.4	78.9	79.2	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4
≥ 4500	74.6	79.2	79.7	80.0	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2	80.2
≥ 4000	77.7	83.0	83.6	84.0	84.2	84.2	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3
≥ 3500	78.9	84.3	85.0	85.5	85.7	85.7	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8
≥ 3000	81.0	86.7	87.5	88.0	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4
≥ 2500	82.8	88.7	89.5	90.0	90.4	90.4	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5
≥ 2000	84.2	90.2	91.0	91.6	92.0	92.0	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1
≥ 1800	84.4	90.5	91.3	92.0	92.4	92.4	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
≥ 1500	85.1	91.4	92.3	93.0	93.4	93.4	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5
≥ 1200	85.9	92.5	93.5	94.2	94.7	94.7	94.8	94.8	94.8	94.9	94.9	94.9	94.9	94.9	94.9	94.9
≥ 1000	86.5	93.6	94.7	95.5	96.0	96.0	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2
≥ 900	86.8	94.1	95.3	96.0	96.6	96.7	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8
≥ 800	87.0	94.3	95.5	96.3	96.9	97.0	97.2	97.2	97.2	97.3	97.3	97.3	97.3	97.3	97.3	97.3
≥ 700	87.1	94.5	95.7	96.5	97.2	97.4	97.6	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
≥ 600	87.2	94.7	96.0	96.9	97.7	97.9	98.1	98.2	98.2	98.3	98.3	98.3	98.3	98.3	98.3	98.3
≥ 500	87.3	94.9	96.4	97.3	98.2	98.5	98.8	98.9	98.9	98.9	99.0	99.0	99.0	99.0	99.0	99.0
≥ 400	87.4	95.1	96.6	97.6	98.7	99.0	99.3	99.5	99.5	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 300	87.4	95.1	96.6	97.6	98.7	99.0	99.3	99.5	99.5	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 200	87.4	95.1	96.6	97.6	98.8	99.1	99.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8	99.8	99.8
≥ 100	87.4	95.1	96.6	97.6	98.8	99.1	99.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8	99.8	99.8
≥ 0	87.4	95.1	96.6	97.6	98.8	99.1	99.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 7990

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0000-0200

CEILING, FEET	VISIBILITY, STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2	≥2	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1	≥1
NO CEILING	65.8	66.2	66.2	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
≥ 20000	70.9	71.3	71.3	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
≥ 18000	71.0	71.4	71.4	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6
≥ 16000	71.3	71.8	71.8	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9
≥ 14000	72.4	72.9	72.9	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
≥ 12000	73.6	74.0	74.0	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
≥ 10000	77.3	77.9	78.0	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1
≥ 9000	77.3	77.9	78.0	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1
≥ 8000	80.3	81.0	81.1	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2	81.2
≥ 7000	81.9	82.6	82.7	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8
≥ 6000	83.9	85.0	85.1	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2
≥ 5000	87.1	88.3	88.4	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6
≥ 4500	87.4	88.7	88.8	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9	88.9
≥ 4000	91.2	92.7	92.9	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.1	93.1	93.1	93.1	93.1	93.1
≥ 3500	91.8	93.2	93.4	93.6	93.6	93.6	93.6	93.6	93.6	93.7	93.7	93.7	93.7	93.7	93.7	93.7
≥ 3000	92.4	94.1	94.3	94.4	94.6	94.6	94.6	94.6	94.6	94.6	94.8	94.8	94.8	94.8	94.8	94.8
≥ 2500	93.0	95.0	95.2	95.3	95.4	95.4	95.4	95.4	95.4	95.7	95.7	95.7	95.7	95.7	95.7	95.7
≥ 2000	93.6	95.8	96.0	96.1	96.2	96.2	96.2	96.2	96.2	96.4	96.4	96.4	96.4	96.4	96.4	96.4
≥ 1800	93.6	95.8	96.0	96.1	96.2	96.2	96.2	96.2	96.2	96.4	96.4	96.4	96.4	96.4	96.4	96.4
≥ 1500	94.0	96.6	96.9	97.0	97.1	97.1	97.1	97.1	97.1	97.3	97.3	97.3	97.3	97.3	97.3	97.3
≥ 1200	95.4	98.1	98.4	98.6	98.7	98.7	98.7	98.7	98.7	98.9	98.9	98.9	98.9	98.9	98.9	98.9
≥ 1000	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 900	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 800	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 700	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 600	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 500	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 400	95.7	98.4	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3
≥ 300	95.8	98.7	99.2	99.3	99.4	99.4	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 200	95.8	98.7	99.2	99.3	99.4	99.4	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 100	95.8	98.7	99.2	99.3	99.4	99.4	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 0	95.8	98.7	99.2	99.3	99.4	99.4	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0300-0500

CEILING (FEET)	VISIBILITY - STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.5	≥0.25	≥0.1	≥0.05	≥0.025	≥0.01	≥0.005
NO CEILING	56.6	57.3	57.6	57.8	58.1	58.1	58.1	58.1	58.2	58.3	58.3	58.3	58.3	58.3	58.4	58.4
≥ 2000	63.8	64.6	64.8	65.0	65.3	65.3	65.3	65.3	65.4	65.6	65.6	65.6	65.6	65.6	65.7	65.7
≥ 1800	64.0	64.8	65.0	65.2	65.6	65.6	65.6	65.6	65.7	65.8	65.8	65.8	65.8	65.8	65.9	65.9
≥ 1600	64.2	65.0	65.2	65.4	65.8	65.8	65.8	65.8	65.9	66.0	66.0	66.0	66.0	66.0	66.1	66.1
≥ 1400	65.4	66.3	66.6	66.8	67.1	67.1	67.1	67.1	67.2	67.3	67.3	67.3	67.3	67.3	67.4	67.4
≥ 1200	67.3	68.2	68.4	68.7	69.0	69.0	69.0	69.0	69.1	69.2	69.2	69.2	69.2	69.2	69.3	69.3
≥ 1000	72.6	73.8	74.1	74.4	74.8	74.8	74.8	74.8	74.9	75.0	75.0	75.0	75.0	75.0	75.1	75.1
≥ 900	72.7	73.9	74.2	74.6	74.9	74.9	74.9	74.9	75.0	75.1	75.1	75.1	75.1	75.1	75.2	75.2
≥ 800	76.9	78.3	78.9	79.2	79.6	79.6	79.6	79.6	79.7	79.8	79.8	79.8	79.8	79.8	79.9	79.9
≥ 700	78.6	80.1	80.8	81.1	81.4	81.4	81.4	81.4	81.6	81.7	81.7	81.7	81.7	81.7	81.8	81.8
≥ 600	80.1	82.0	82.7	83.0	83.4	83.4	83.4	83.4	83.6	83.7	83.7	83.7	83.7	83.7	83.8	83.8
≥ 500	82.2	84.3	85.0	85.4	85.9	85.9	85.9	85.9	86.0	86.1	86.1	86.1	86.1	86.1	86.2	86.2
≥ 450	82.3	84.6	85.2	85.7	86.1	86.1	86.1	86.1	86.2	86.3	86.3	86.3	86.3	86.3	86.4	86.4
≥ 400	86.0	88.4	89.2	89.7	90.1	90.1	90.1	90.1	90.2	90.3	90.3	90.3	90.3	90.3	90.4	90.4
≥ 350	86.4	88.9	89.7	90.2	90.7	90.7	90.7	90.7	90.8	90.9	90.9	90.9	90.9	90.9	91.0	91.0
≥ 300	87.1	90.1	90.9	91.6	92.0	92.0	92.0	92.0	92.1	92.2	92.2	92.2	92.2	92.2	92.3	92.3
≥ 250	88.2	91.2	92.1	92.8	93.2	93.2	93.2	93.2	93.3	93.4	93.4	93.4	93.4	93.4	93.6	93.6
≥ 200	88.9	91.9	92.8	93.4	93.9	93.9	93.9	93.9	94.0	94.1	94.1	94.1	94.1	94.1	94.2	94.2
≥ 180	89.0	92.0	92.9	93.6	94.0	94.0	94.0	94.0	94.1	94.2	94.2	94.2	94.2	94.2	94.3	94.3
≥ 150	90.2	93.2	94.1	94.8	95.2	95.2	95.2	95.2	95.3	95.4	95.4	95.4	95.4	95.4	95.6	95.6
≥ 120	91.2	94.7	95.7	96.3	96.8	96.8	96.8	96.8	96.9	97.0	97.0	97.0	97.0	97.0	97.1	97.1
≥ 100	91.8	95.2	96.2	97.0	97.4	97.4	97.4	97.4	97.6	97.7	97.7	97.7	97.7	97.7	97.9	97.9
≥ 90	91.9	95.3	96.4	97.3	98.0	98.0	98.0	98.0	98.1	98.2	98.2	98.2	98.3	98.3	98.4	98.4
≥ 80	91.9	95.3	96.4	97.3	98.1	98.1	98.1	98.1	98.2	98.3	98.3	98.3	98.4	98.4	98.6	98.6
≥ 70	91.9	95.3	96.4	97.3	98.1	98.1	98.1	98.1	98.2	98.4	98.4	98.4	98.6	98.6	98.7	98.7
≥ 60	92.0	95.4	96.6	97.4	98.2	98.2	98.2	98.2	98.3	98.6	98.6	98.6	98.7	98.7	98.8	98.8
≥ 50	92.0	95.6	96.9	97.8	98.6	98.6	98.6	98.6	98.7	98.9	98.9	98.9	99.0	99.0	99.1	99.1
≥ 40	92.0	95.6	96.9	97.8	98.7	98.7	98.7	98.7	98.8	99.0	99.0	99.0	99.1	99.1	99.2	99.2
≥ 30	92.0	95.6	96.9	97.8	98.7	98.7	98.7	98.7	98.8	99.0	99.0	99.0	99.1	99.1	99.2	99.2
≥ 20	92.0	95.6	96.9	97.8	98.7	98.7	98.7	98.7	98.8	99.0	99.0	99.0	99.1	99.1	99.2	99.2
≥ 10	92.0	95.6	96.9	97.8	98.7	98.7	98.7	98.7	98.8	99.0	99.0	99.0	99.1	99.1	99.2	99.2
≥ 0	92.0	95.6	96.9	97.8	98.7	98.7	98.7	98.7	98.8	99.0	99.0	99.0	99.1	99.1	99.2	99.2

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	≥6	≥5	≥4	≥3	≥2.5	≥2	≥1.5	≥1	≥0.75	≥0.5	≥0.25	≥0.15	≥0.1	≥0.05	≥0
NO CEILING	53.4	54.6	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8
≥ 20000	59.2	60.4	60.7	60.8	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9
≥ 18000	59.2	60.4	60.7	60.8	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9
≥ 16000	59.4	60.7	60.9	61.0	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
≥ 14000	60.9	62.2	62.4	62.6	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9
≥ 12000	63.9	65.2	65.4	65.8	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
≥ 10000	68.7	70.0	70.2	70.6	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
≥ 9000	68.9	70.3	70.6	71.1	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
≥ 8000	74.0	75.7	76.0	76.7	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9
≥ 7000	75.3	77.1	77.4	78.1	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
≥ 6000	77.3	79.1	79.4	80.1	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3
≥ 5000	79.8	82.3	82.7	83.3	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6	83.6
≥ 4500	80.0	82.9	83.2	83.9	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
≥ 4000	81.7	84.9	85.4	86.1	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3
≥ 3500	81.8	85.0	85.6	86.2	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4
≥ 3000	83.7	87.1	87.9	88.6	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8
≥ 2500	85.0	88.7	89.2	89.9	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
≥ 2000	85.8	89.4	90.0	90.8	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1
≥ 1800	86.1	89.8	90.3	91.1	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4
≥ 1500	87.7	91.4	92.0	92.8	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1
≥ 1200	88.2	92.2	92.9	93.6	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3
≥ 1000	88.6	92.6	93.2	94.1	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8
≥ 900	88.6	92.7	93.4	94.4	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2	95.2
≥ 800	88.6	93.3	94.2	95.2	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4
≥ 700	88.6	93.7	94.7	95.8	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
≥ 600	88.8	94.1	95.2	96.3	97.8	97.9	98.0	98.2	98.2	98.4	98.4	98.4	98.4	98.4	98.4	98.4
≥ 500	88.8	94.2	95.3	96.4	97.9	98.1	98.2	98.4	98.4	98.7	98.7	98.7	98.7	98.7	98.7	98.7
≥ 400	88.8	94.2	95.3	96.4	98.0	98.3	98.4	98.6	98.6	99.0	99.0	99.0	99.0	99.0	99.0	99.0
≥ 300	88.8	94.2	95.3	96.4	98.1	98.4	98.6	98.8	98.8	99.2	99.2	99.4	99.4	99.4	99.4	99.4
≥ 200	88.8	94.2	95.3	96.4	98.2	98.6	98.9	99.3	99.3	99.6	99.6	99.7	99.7	99.7	99.7	99.7
≥ 100	88.8	94.2	95.3	96.4	98.2	98.6	98.9	99.3	99.3	99.6	99.6	99.7	99.7	99.7	99.7	99.7
≥ 0	88.8	94.2	95.3	96.4	98.2	98.6	98.9	99.3	99.3	99.6	99.6	99.7	99.7	99.7	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .5	≥ .3	≥ .2	≥ .1	≥ .05	≥ .01	≥ 0
NO CEILING	52.8	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
≥ 20000	59.6	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
≥ 18000	59.7	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2
≥ 16000	60.2	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8
≥ 14000	61.8	63.3	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4
≥ 12000	63.2	65.0	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
≥ 10000	68.4	70.4	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6
≥ 9000	69.1	71.1	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2
≥ 8000	72.1	74.4	74.8	74.8	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
≥ 7000	74.6	77.4	77.9	77.9	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0
≥ 6000	76.3	79.8	80.2	80.2	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3	80.3
≥ 5000	77.6	81.2	81.8	81.8	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9
≥ 4500	77.9	81.7	82.2	82.3	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4
≥ 4000	79.2	83.4	84.0	84.1	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2
≥ 3500	79.8	84.0	84.6	84.7	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8
≥ 3000	80.8	85.4	86.1	86.2	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3
≥ 2500	83.1	87.9	88.6	88.7	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8
≥ 2000	85.9	90.8	91.4	91.9	92.0	92.0	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1
≥ 1800	86.3	91.2	91.9	92.3	92.4	92.4	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
≥ 1500	88.4	93.6	94.2	94.9	95.0	95.0	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
≥ 1200	89.4	95.0	95.7	96.4	96.7	96.7	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8
≥ 1000	89.4	95.1	95.8	96.4	96.9	96.9	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
≥ 900	89.8	95.8	96.6	97.4	97.9	97.9	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1
≥ 800	89.8	95.9	96.7	97.6	98.1	98.2	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4
≥ 700	89.8	96.0	96.8	97.7	98.2	98.3	98.6	98.6	98.6	98.7	98.7	98.7	98.7	98.7	98.7	98.7
≥ 600	89.9	96.2	97.1	98.1	98.8	98.9	99.3	99.3	99.3	99.4	99.4	99.4	99.4	99.4	99.4	99.4
≥ 500	89.9	96.6	97.4	98.4	99.2	99.3	99.8	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 400	89.9	96.7	97.6	98.6	99.3	99.4	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 300	89.9	96.7	97.6	98.6	99.3	99.4	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 200	89.9	96.7	97.6	98.6	99.3	99.4	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 100	89.9	96.7	97.6	98.6	99.3	99.4	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 0	89.9	96.7	97.6	98.6	99.3	99.4	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400

CEILING FEET	VISIBILITY - STATUTE MILES															
	270	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
270	50.2	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
260	60.7	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
250	60.7	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
240	61.1	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
230	61.7	63.4	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5
220	63.3	65.0	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
210	68.5	70.5	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6
200	69.5	71.5	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6
190	72.4	74.5	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6	74.6
180	74.0	76.4	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9
170	75.6	78.4	78.9	78.9	78.9	78.9	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0
160	78.5	81.5	82.0	82.1	82.2	82.2	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
150	79.2	82.2	82.8	82.8	82.9	82.9	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0
140	80.4	83.6	84.4	84.5	84.8	84.8	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1
130	81.8	85.3	86.1	86.2	86.4	86.4	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8
120	85.1	88.7	89.4	89.5	89.8	89.8	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
110	87.8	91.4	92.2	92.3	92.5	92.5	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9	92.9
100	89.7	93.1	94.4	94.5	94.9	95.0	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
90	90.1	94.2	95.0	95.1	95.4	95.6	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
80	91.7	95.9	96.7	96.9	97.2	97.3	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9
70	92.2	96.4	97.2	97.4	97.9	98.0	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6
60	92.4	96.8	97.6	97.8	98.3	98.6	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
50	92.5	96.9	97.7	97.9	98.4	98.8	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3
40	92.7	97.0	97.8	98.0	98.6	98.9	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
30	92.7	97.0	97.8	98.0	98.6	98.9	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
20	92.9	97.2	98.0	98.2	98.8	99.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10	92.9	97.2	98.0	98.2	98.8	99.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0	92.9	97.2	98.0	98.2	98.8	99.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 899

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2.5	≥ 2	≥ 1.5	≥ 1	≥ .75	≥ .5	≥ .25	≥ .1	≥ .05	≥ .01	≥ 0
NO. CEILING	51.9	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
≥ 20000	62.3	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4
≥ 18000	62.8	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
≥ 16000	63.4	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6
≥ 14000	64.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
≥ 12000	66.9	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
≥ 10000	70.7	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
≥ 9000	71.4	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6	73.6
≥ 8000	74.7	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4
≥ 7000	75.8	78.7	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
≥ 6000	77.3	80.6	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9
≥ 5000	80.7	84.0	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3
≥ 4500	81.8	85.1	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4
≥ 4000	83.4	87.1	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
≥ 3500	84.8	88.6	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2
≥ 3000	88.4	92.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6
≥ 2500	90.3	94.4	95.4	95.4	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7
≥ 2000	91.6	96.2	97.3	97.3	97.8	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9
≥ 1800	91.7	96.3	97.4	97.4	97.9	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
≥ 1500	92.4	97.1	98.4	98.4	98.9	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
≥ 1200	92.4	97.3	98.7	98.7	99.1	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
≥ 1000	92.4	97.6	99.0	99.0	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 900	92.6	97.7	99.1	99.1	99.6	99.8	99.8	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 800	92.6	97.7	99.1	99.1	99.6	99.8	99.8	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 700	92.6	97.7	99.1	99.1	99.6	99.8	99.8	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 600	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 500	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 400	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 300	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 200	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 100	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 0	92.6	97.7	99.1	99.1	99.6	99.9	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000

CEILING FEET	VISIBILITY - STATUTE MILES															
	25	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
NO CEILING	57.0	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3
2-3000	67.2	69.2	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3
2-3000	67.4	69.4	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
2-3000	67.9	69.9	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
2-4000	69.9	71.9	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0
2-4000	71.7	74.0	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
2-4000	75.1	77.4	77.6	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7
2-4000	75.6	78.0	78.1	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2
2-8000	78.9	81.4	81.6	81.7	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
2-8000	80.1	82.7	82.8	82.9	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0
2-8000	82.0	84.9	85.0	85.1	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2
2-8000	84.3	87.4	87.6	87.7	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
2-4500	84.7	87.8	87.9	88.0	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1
2-4500	87.2	90.7	90.9	91.0	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1
2-4500	88.1	91.8	92.0	92.1	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2	92.2
2-4500	91.0	94.7	94.9	95.0	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
2-2500	91.6	95.8	96.2	96.4	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
2-2500	92.3	96.9	97.4	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
2-1800	92.3	96.9	97.4	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
2-1800	92.8	97.4	98.0	98.2	98.3	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4
2-1800	92.8	97.8	98.3	98.6	98.7	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	99.0	99.0	99.0
2-1800	92.9	98.1	98.7	98.9	99.1	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.4	99.4	99.4
2-900	92.9	98.1	98.7	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.7	99.7	99.7
2-900	92.9	98.1	98.7	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.7	99.7	99.7
2-700	92.9	98.1	98.7	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.7	99.7	99.7
2-700	92.9	98.1	98.7	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.7	99.7	99.7
2-500	92.9	98.1	98.7	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.7	99.7	99.7
2-400	92.9	98.1	98.7	98.9	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.8	99.8	99.8
2-300	92.9	98.1	98.7	98.9	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.8	99.8	99.8
2-200	92.9	98.1	98.7	98.9	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.8	99.8	99.8
2-100	92.9	98.1	98.7	98.9	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.8	99.8	99.8
2-100	92.9	98.1	98.7	98.9	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.8	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUN

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATION

2100-2300

CEILING FEET	VISIBILITY - STATUTE MILES															
	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2	4 3/4	5	5 1/4	5 1/2	5 3/4	6	6 1/4
NO CEILING	61.8	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2
1-2500	69.2	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
2-1800	69.8	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3
2-1600	69.9	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4
2-1400	71.6	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1	72.1
2-1200	73.9	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7	74.7
2-1000	77.1	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
2-900	77.3	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1
2-800	81.3	82.3	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4
2-700	82.6	83.6	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7	83.7
2-600	84.2	86.1	86.2	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3	86.3
2-500	87.3	89.2	89.3	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
2-400	87.6	89.4	89.6	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7
2-300	90.4	92.4	92.6	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7	92.7
2-250	91.4	93.4	93.6	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7
2-200	93.0	95.1	95.2	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3
2-150	93.4	95.8	95.9	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0
2-100	94.6	97.0	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
2-80	94.7	97.1	97.2	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
2-60	95.0	97.8	98.1	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.3	98.3	98.3	98.3	98.3	98.3
2-40	95.2	98.2	98.7	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.9	98.9	98.9	98.9	98.9	98.9
2-20	95.3	98.7	99.1	99.2	99.3	99.3	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6
2-10	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-5	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-2 1/2	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1 1/2	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-3/4	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-3/8	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/4	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/8	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-3/16	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/16	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/32	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/64	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/128	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/256	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/512	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/1024	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7
2-1/2048	95.3	98.7	99.2	99.3	99.4	99.4	99.4	99.6	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 IOL A. PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

CEILING VERSUS VISIBILITY

73-82

JUN

All

1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 26

56.2	57.2	57.3	57.3	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4
64.1	65.4	65.5	65.5	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6
64.3	65.6	65.7	65.7	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8
64.7	66.0	66.0	66.1	66.1	66.1	66.1	66.1	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2
66.1	67.4	67.5	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.7	67.7
68.0	69.4	69.5	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.7	69.7
72.3	73.8	74.1	74.1	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2	74.2
72.7	74.3	74.4	74.4	74.6	74.6	74.6	74.6	74.6	74.7	74.7	74.7	74.7	74.7	74.7	74.7
76.3	78.1	78.4	78.5	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.7	78.7
77.8	79.8	80.1	80.3	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4
79.6	82.0	82.3	82.5	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.7	82.7
82.2	84.8	85.1	85.3	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
82.6	85.3	85.6	85.8	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0
85.1	87.9	88.4	88.6	88.7	88.7	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.9	88.9
85.7	88.8	89.3	89.5	89.6	89.6	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7
87.7	91.0	91.5	91.8	91.9	91.9	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.0	92.1	92.1
89.1	92.5	93.1	93.4	93.5	93.5	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.6	93.7	93.7
90.3	94.0	94.6	94.9	95.1	95.1	95.2	95.2	95.2	95.3	95.3	95.3	95.3	95.3	95.3	95.3
90.5	94.2	94.8	95.1	95.3	95.3	95.4	95.4	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
91.5	95.4	96.1	96.4	96.6	96.7	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.9	96.9
92.1	96.2	96.9	97.3	97.6	97.7	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.9	97.9
92.3	96.6	97.3	97.7	98.1	98.1	98.2	98.2	98.2	98.3	98.3	98.3	98.3	98.3	98.4	98.4
92.4	96.7	97.5	97.9	98.3	98.5	98.6	98.6	98.6	98.7	98.7	98.7	98.7	98.7	98.7	98.7
92.4	96.8	97.6	98.1	98.6	98.7	98.8	98.8	98.9	98.9	98.9	98.9	99.0	99.0	99.0	99.0
92.4	96.9	97.7	98.1	98.7	98.8	98.9	98.9	99.0	99.1	99.1	99.1	99.1	99.1	99.1	99.1
92.5	97.0	97.8	98.3	98.8	99.0	99.2	99.2	99.3	99.4	99.4	99.4	99.4	99.4	99.5	99.5
92.5	97.1	98.0	98.4	99.0	99.2	99.3	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6
92.5	97.1	98.0	98.4	99.0	99.2	99.3	99.4	99.4	99.6	99.6					

TOTAL NUMBER OF OBSERVATIONS 7199

USAF FIAC 0-14.5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-0200

CEILING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1000	71.1	73.0	73.2	73.4	73.8	73.9	74.0	74.1	74.2	74.2	74.2	74.2	74.2	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5
900	75.8	77.8	78.1	78.3	78.7	78.8	78.9	79.0	79.1	79.1	79.1	79.1	79.1	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5
800	76.2	78.3	78.5	78.7	79.1	79.2	79.4	79.5	79.6	79.6	79.6	79.6	79.6	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9
700	76.2	78.3	78.5	78.7	79.1	79.2	79.4	79.5	79.6	79.6	79.6	79.6	79.6	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9
600	76.9	78.9	79.1	79.4	79.8	79.9	80.0	80.1	80.2	80.2	80.2	80.2	80.2	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
500	78.0	80.2	80.4	80.6	81.1	81.2	81.3	81.4	81.5	81.5	81.5	81.5	81.5	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
400	81.1	83.9	84.1	84.3	84.7	84.8	84.9	85.1	85.2	85.2	85.2	85.2	85.2	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
300	81.6	84.4	84.6	84.8	85.3	85.4	85.5	85.6	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
200	83.0	85.8	86.0	86.2	86.7	86.8	86.9	87.0	87.1	87.1	87.1	87.1	87.1	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4
100	84.1	87.1	87.3	87.5	88.0	88.1	88.2	88.3	88.4	88.4	88.4	88.4	88.4	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7
0	85.4	88.6	88.8	89.0	89.5	89.6	89.7	89.8	89.9	89.9	89.9	89.9	89.9	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2
1000	87.3	90.8	91.0	91.2	91.6	91.7	91.9	92.0	92.2	92.2	92.2	92.2	92.2	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5
900	88.0	91.6	91.8	92.0	92.5	92.6	92.8	92.9	93.0	93.0	93.0	93.0	93.0	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3
800	89.1	92.9	93.2	93.4	93.9	94.1	94.3	94.4	94.5	94.5	94.5	94.5	94.5	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8
700	89.4	93.7	94.0	94.3	94.7	94.9	95.2	95.3	95.4	95.4	95.4	95.4	95.4	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7
600	90.6	95.4	95.7	96.0	96.5	96.7	97.0	97.1	97.2	97.2	97.2	97.2	97.2	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5
500	90.9	95.6	95.9	96.2	96.7	96.9	97.2	97.3	97.4	97.4	97.4	97.4	97.4	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
400	91.3	96.0	96.3	96.7	97.1	97.3	97.6	97.7	97.8	97.8	97.8	97.8	97.8	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
300	91.3	96.0	96.3	96.7	97.1	97.3	97.6	97.7	97.8	97.8	97.8	97.8	97.8	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
200	91.8	96.7	97.0	97.3	97.7	98.0	98.3	98.4	98.5	98.5	98.5	98.5	98.5	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9
100	92.0	96.9	97.2	97.5	98.0	98.2	98.5	98.6	98.7	98.7	98.7	98.7	98.7	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
0	92.0	97.0	97.3	97.6	98.1	98.3	98.6	98.7	98.8	98.8	98.8	98.8	98.8	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
1000	92.0	97.0	97.3	97.6	98.1	98.3	98.6	98.7	98.8	98.8	98.8	98.8	98.8	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
900	92.2	97.1	97.4	97.7	98.2	98.4	98.7	98.8	98.9	98.9	98.9	98.9	98.9	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
800	92.2	97.4	97.7	98.1	98.5	98.7	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
700	92.2	97.5	97.8	98.2	98.6	98.8	99.1	99.2	99.4	99.4	99.4	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
600	92.2	97.5	97.8	98.2	98.6	98.8	99.1	99.2	99.4	99.4	99.4	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
500	92.2	97.7	98.1	98.4	98.8	99.0	99.4	99.5	99.6	99.6	99.6	99.6	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
400	92.2	97.7	98.1	98.4	98.8	99.0	99.4	99.5	99.6	99.6	99.6	99.6	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
300	92.2	97.7	98.1	98.4	98.8	99.0	99.4	99.5	99.6	99.6	99.6	99.6	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
200	92.2	97.7	98.1	98.4	98.8	99.0	99.4	99.5	99.6	99.6	99.6	99.6	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100	92.2	97.7	98.1	98.4	98.8	99.0	99.4	99.5	99.6	99.6	99.6	99.6	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0	92.2	97.7	98.1	98.4	98.8	99.0	99.4	99.5	99.6	99.6	99.6	99.6	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 1014-5 OF A PREVIOUS EDITION OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORMS AFB MO

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-0500

CEILING FEET	VISIBILITY - STATUTE MILES															
	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10	13/10	14/10	15/10	16/10
NO. CEILING	65.1	68.3	69.3	69.1	69.7	69.8	70.0	70.0	70.0	70.2	70.2	70.3	70.3	70.3	70.4	70.5
1-2000	71.5	75.2	75.9	76.0	76.6	76.7	76.9	76.9	76.9	77.1	77.1	77.2	77.2	77.2	77.3	77.4
2-4000	71.5	75.3	76.0	76.1	76.7	76.8	77.0	77.0	77.0	77.2	77.2	77.3	77.3	77.3	77.4	77.5
2-6000	71.7	75.5	76.2	76.3	76.9	77.0	77.2	77.2	77.2	77.4	77.4	77.5	77.5	77.5	77.6	77.7
2-8000	72.7	76.5	77.2	77.3	77.8	78.0	78.2	78.2	78.2	78.4	78.4	78.5	78.5	78.5	78.6	78.7
2-10000	73.4	77.2	78.0	78.1	78.6	78.7	78.9	78.9	78.9	79.1	79.1	79.2	79.2	79.2	79.4	79.5
2-12000	77.8	82.0	82.8	82.9	83.5	83.7	83.9	83.9	83.9	84.1	84.1	84.2	84.2	84.2	84.3	84.4
2-14000	78.0	82.2	82.9	83.0	83.7	83.8	84.0	84.0	84.0	84.2	84.2	84.3	84.3	84.3	84.4	84.5
2-16000	78.8	83.0	83.9	84.0	84.6	84.7	84.9	84.9	84.9	85.2	85.2	85.3	85.3	85.3	85.4	85.5
2-18000	80.1	84.4	85.3	85.4	86.0	86.1	86.3	86.3	86.3	86.6	86.6	86.7	86.7	86.7	86.8	86.9
2-20000	81.4	85.7	86.6	86.7	87.3	87.4	87.6	87.6	87.6	87.8	87.8	88.0	88.0	88.0	88.1	88.2
2-22000	83.5	88.2	89.0	89.2	89.9	90.0	90.2	90.2	90.2	90.4	90.4	90.5	90.5	90.5	90.6	90.8
2-24000	84.3	88.9	89.8	90.0	90.6	90.8	91.0	91.0	91.0	91.2	91.2	91.3	91.3	91.3	91.4	91.5
2-26000	85.4	90.9	92.0	92.5	93.1	93.2	93.4	93.4	93.4	93.7	93.7	93.8	93.8	93.8	93.9	94.0
2-28000	85.5	91.4	92.6	93.0	93.7	93.8	94.0	94.0	94.0	94.2	94.2	94.3	94.3	94.3	94.4	94.5
2-30000	86.3	92.3	93.4	93.9	94.6	94.7	94.9	94.9	94.9	95.2	95.2	95.3	95.3	95.3	95.4	95.5
2-32000	86.5	92.4	93.5	94.0	94.8	94.9	95.2	95.2	95.2	95.4	95.4	95.5	95.5	95.5	95.6	95.7
2-34000	86.9	92.8	94.0	94.4	95.3	95.4	95.6	95.6	95.6	95.8	95.8	95.9	95.9	95.9	96.0	96.1
2-36000	86.9	92.8	94.0	94.5	95.4	95.5	95.7	95.7	95.7	95.9	95.9	96.0	96.0	96.0	96.1	96.2
2-38000	87.4	93.3	94.5	95.2	96.0	96.1	96.3	96.3	96.3	96.6	96.6	96.7	96.7	96.7	96.8	96.9
2-40000	87.5	93.5	94.7	95.4	96.2	96.3	96.6	96.6	96.6	96.8	96.8	96.9	96.9	96.9	97.0	97.1
2-42000	87.7	93.8	94.9	95.6	96.6	96.7	96.9	96.9	96.9	97.1	97.1	97.2	97.2	97.2	97.3	97.4
2-44000	87.7	93.8	94.9	95.6	96.6	96.7	96.9	96.9	96.9	97.1	97.1	97.2	97.2	97.2	97.3	97.4
2-46000	87.7	93.8	95.1	95.8	96.8	96.9	97.1	97.1	97.1	97.3	97.3	97.4	97.4	97.4	97.5	97.6
2-48000	88.0	94.2	95.5	96.2	97.3	97.4	97.6	97.6	97.6	97.8	97.8	98.0	98.0	98.0	98.1	98.2
2-50000	88.1	94.4	95.7	96.6	97.7	97.8	98.1	98.1	98.1	98.3	98.3	98.4	98.4	98.4	98.5	98.6
2-52000	88.1	94.5	95.8	96.7	98.0	98.1	98.3	98.3	98.3	98.5	98.5	98.6	98.6	98.6	98.7	98.8
2-54000	88.2	94.8	96.1	97.0	98.3	98.4	98.6	98.6	98.6	98.8	98.8	98.9	98.9	98.9	99.1	99.4
2-56000	88.2	94.8	96.1	97.1	98.4	98.5	98.8	98.8	98.8	99.1	99.1	99.2	99.4	99.4	99.7	99.9
2-58000	88.2	94.8	96.1	97.1	98.4	98.5	98.8	98.8	98.8	99.1	99.1	99.2	99.4	99.4	99.7	99.9
2-60000	88.2	94.8	96.1	97.1	98.4	98.5	98.8	98.8	98.8	99.1	99.1	99.2	99.4	99.4	99.7	100.0
2-62000	88.2	94.8	96.1	97.1	98.4	98.5	98.8	98.8	98.8	99.1	99.1	99.2	99.4	99.4	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0600-0800

		VISIBILITY - STATUTE MILES															
		210	20	20	24	24	24	24	24	24	24	24	24	24	24	24	24
NO.	FEET	56.7	59.0	59.7	59.8	60.1	60.2	60.2	60.3	60.3	60.3	60.3	60.3	60.4	60.4	60.5	60.5
2	2000	64.6	67.5	68.3	68.5	68.9	69.3	69.0	69.1	69.1	69.1	69.1	69.1	69.2	69.2	69.4	69.4
2	5000	64.7	67.6	68.4	68.6	69.0	69.1	69.1	69.2	69.2	69.2	69.2	69.2	69.4	69.4	69.5	69.5
2	14000	66.6	69.6	70.3	70.5	71.0	71.1	71.1	71.2	71.2	71.2	71.2	71.2	71.3	71.3	71.4	71.4
2	12000	68.6	71.7	72.5	72.7	73.1	73.2	73.2	73.3	73.3	73.3	73.3	73.3	73.4	73.4	73.5	73.5
2	10000	71.9	75.7	76.6	76.8	77.2	77.3	77.3	77.4	77.4	77.4	77.4	77.4	77.5	77.5	77.6	77.6
2	9000	72.3	76.3	77.2	77.4	77.8	78.0	78.0	78.1	78.1	78.1	78.1	78.1	78.2	78.2	78.3	78.3
2	8000	74.7	78.9	79.8	80.0	80.4	80.5	80.5	80.6	80.6	80.6	80.6	80.6	80.8	80.8	80.9	80.9
2	7000	76.5	80.6	81.5	81.7	82.3	82.4	82.4	82.5	82.5	82.5	82.5	82.5	82.6	82.6	82.7	82.7
2	6000	78.2	82.6	83.4	83.7	84.2	84.3	84.3	84.4	84.4	84.4	84.4	84.4	84.5	84.5	84.6	84.6
2	5000	80.1	84.7	85.6	85.8	86.3	86.5	86.5	86.6	86.6	86.6	86.6	86.6	86.7	86.7	86.8	86.8
2	4000	80.1	84.7	85.6	85.8	86.3	86.5	86.5	86.6	86.6	86.6	86.6	86.6	86.7	86.7	86.8	86.8
2	3000	81.1	86.1	87.1	87.3	88.0	88.1	88.2	88.3	88.3	88.3	88.3	88.3	88.4	88.4	88.5	88.5
2	2000	81.2	86.5	87.5	87.8	88.5	88.6	88.7	88.9	88.9	88.9	88.9	88.9	89.0	89.0	89.1	89.1
2	1500	82.7	88.3	89.4	89.7	90.3	90.4	90.5	90.8	90.8	90.8	90.8	90.8	90.9	90.9	91.0	91.0
2	1000	83.2	88.9	90.0	90.3	91.0	91.1	91.2	91.4	91.4	91.4	91.4	91.4	91.5	91.5	91.6	91.6
2	500	83.5	89.2	90.3	90.8	91.4	91.5	91.6	91.8	91.8	91.8	91.8	91.8	91.9	91.9	92.0	92.0
2	200	83.9	89.6	90.6	91.1	91.7	91.8	91.9	92.2	92.2	92.2	92.2	92.2	92.3	92.3	92.4	92.4
2	100	84.9	90.9	91.9	92.4	93.0	93.1	93.2	93.4	93.4	93.4	93.4	93.4	93.5	93.5	93.7	93.7
2	50	85.2	91.2	92.3	92.8	93.4	93.5	93.7	93.9	93.9	93.9	93.9	93.9	94.0	94.0	94.1	94.1
2	20	85.6	91.9	93.2	93.9	94.6	94.7	94.8	95.1	95.1	95.1	95.1	95.1	95.2	95.2	95.3	95.3
2	10	85.6	92.0	93.3	94.0	94.7	94.8	94.9	95.2	95.2	95.2	95.2	95.2	95.3	95.3	95.4	95.4
2	5	85.6	92.2	93.5	94.3	95.2	95.3	95.5	95.7	95.7	95.7	95.7	95.9	96.0	96.0	96.1	96.1
2	2	85.7	92.6	94.0	94.7	95.6	95.7	95.9	96.1	96.1	96.1	96.3	96.3	96.5	96.5	96.6	96.6
2	1	86.0	93.0	94.4	95.2	96.2	96.3	96.7	96.9	96.9	96.9	97.1	97.1	97.2	97.2	97.3	97.3
2	0.5	86.0	93.0	94.7	95.8	97.3	97.4	97.7	98.0	98.0	98.0	98.2	98.2	98.3	98.3	98.4	98.4
2	0.2	86.0	93.1	95.1	96.3	97.8	98.0	98.3	98.6	98.6	98.6	98.8	98.8	98.9	99.0	99.1	99.1
2	0.1	86.1	93.2	95.2	96.5	98.0	98.1	98.4	98.7	98.7	98.9	99.1	99.1	99.2	99.4	99.5	99.5
2	0.05	86.1	93.2	95.2	96.5	98.1	98.2	98.6	98.9	98.9	99.2	99.5	99.5	99.6	99.8	99.9	99.9
2	0.02	86.1	93.2	95.2	96.5	98.1	98.2	98.6	98.9	98.9	99.2	99.5	99.5	99.6	99.8	100.0	100.0
2	0.01	86.1	93.2	95.2	96.5	98.1	98.2	98.6	98.9	98.9	99.2	99.5	99.5	99.6	99.8	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORMS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

0900-1100

CEILING FEET	VISIBILITY STATUTE MILES															
	≥1	≥2	≥3	≥4	≥5	≥6	≥7	≥8	≥9	≥10	≥11	≥12	≥13	≥14	≥15	≥16
NO CEILING	59.5	60.3	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
≥ 2000	70.4	71.5	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
≥ 1800	70.5	71.6	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9
≥ 1600	70.8	71.8	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2
≥ 1400	72.4	73.4	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8
≥ 1200	73.5	74.6	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
≥ 1000	76.3	78.0	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
≥ 900	76.9	78.7	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0	79.0
≥ 800	78.9	81.4	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
≥ 700	80.4	83.0	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3
≥ 600	81.8	84.8	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3	85.3
≥ 500	82.8	86.1	86.8	87.0	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2
≥ 400	83.0	86.3	87.0	87.2	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4
≥ 300	83.9	87.2	87.8	88.1	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3
≥ 200	84.0	87.3	88.0	88.2	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4
≥ 100	86.0	89.8	90.4	90.6	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0
≥ 50	86.9	90.8	91.4	91.6	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9
≥ 20	88.6	92.9	93.5	93.8	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1
≥ 10	88.9	93.2	93.9	94.1	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4
≥ 5	90.1	94.8	95.3	95.5	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
≥ 2	91.1	96.0	97.0	97.3	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
≥ 1	91.6	96.6	97.5	97.8	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4
≥ 0.5	91.9	97.0	98.0	98.3	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8
≥ 0.25	91.9	97.4	98.4	98.7	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
≥ 0.1	91.9	97.5	98.6	99.0	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 0.05	91.9	97.5	98.6	99.0	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
≥ 0.025	91.9	97.5	98.6	99.1	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 0.01	91.9	97.5	98.6	99.1	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 0.005	91.9	97.5	98.6	99.1	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 0.0025	91.9	97.5	98.6	99.1	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
≥ 0.001	91.9	97.5	98.6	99.1	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1200-1400

CEILING FEET	VISIBILITY STATUTE MILES															
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0
NO CEILING	58.5	59.1	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5
2-2000	69.6	70.4	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8
2-1800	70.1	71.0	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
2-1600	70.4	71.3	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6
2-1400	72.0	72.9	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2
2-1200	73.5	74.5	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8
2-1000	77.6	78.8	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1
2-800	77.8	79.0	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4
2-600	79.9	81.4	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
2-400	81.0	82.6	82.9	83.0	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1
2-200	82.0	83.9	84.2	84.3	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
2-100	84.0	85.9	86.2	86.3	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
2-50	84.4	86.3	86.7	86.8	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
2-0	86.6	88.8	89.1	89.2	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
2-1500	87.3	90.0	90.3	90.4	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6	90.6
2-1300	90.2	93.4	93.8	93.9	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1	94.1
2-1100	91.6	94.9	95.3	95.4	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
2-900	93.7	97.1	97.5	97.6	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
2-700	93.7	97.1	97.5	97.6	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
2-500	93.9	97.3	98.0	98.1	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3
2-300	94.2	98.0	98.4	98.5	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7	98.7
2-100	94.5	98.4	98.9	99.0	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2
2-50	94.5	98.4	98.9	99.0	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
2-0	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-1500	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-1300	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-1100	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-900	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-700	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-500	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-300	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-100	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-50	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
2-0	94.5	98.4	98.9	99.1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1500-1700

CEILING FEET	VISIBILITY STATUTE MILES															
	≥10	20	25	24	23	22	21	20	19	18	17	16	15	14	13	12
NOV CEILING	60.0	60.8	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
≥ 20000	70.4	71.5	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
≥ 8000	70.9	71.9	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3	72.3
≥ 5000	71.3	72.4	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7
≥ 4000	71.8	72.9	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2	73.2
≥ 3200	74.4	75.6	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9
≥ 3000	79.9	81.3	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
≥ 2000	80.3	81.7	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0	82.0
≥ 1800	82.7	84.2	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
≥ 1700	84.6	86.1	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5	86.5
≥ 1600	86.6	88.1	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4
≥ 1500	88.3	90.2	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5
≥ 1400	88.5	90.4	90.8	91.0	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1
≥ 1300	91.2	93.2	93.5	93.8	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9
≥ 1200	91.9	94.1	94.4	94.6	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
≥ 1100	94.5	97.0	97.3	97.5	97.6	97.6	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
≥ 1000	95.5	98.3	98.6	98.8	98.9	98.9	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
≥ 900	95.7	98.8	99.1	99.4	99.5	99.5	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 800	95.7	98.8	99.1	99.4	99.5	99.5	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
≥ 700	95.8	98.9	99.2	99.5	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
≥ 600	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 500	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 400	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 300	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 200	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 100	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 50	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 20	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
≥ 10	95.9	99.2	99.6	99.8	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

1800-2000

NO. OF OBS.	VISIBILITY - STATUTE MILES															
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	10.0
2.000	65.3	66.3	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
2.500	73.5	74.7	75.1	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2
3.000	74.1	75.3	75.6	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7
3.500	74.1	75.3	75.6	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7
4.000	74.9	76.1	76.5	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6
4.500	76.3	77.7	78.1	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2
5.000	81.2	83.1	83.4	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5
5.500	81.6	83.5	83.9	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0
6.000	84.1	86.5	87.0	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1	87.1
6.500	85.2	87.6	88.2	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3
7.000	86.2	88.7	89.4	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
7.500	89.7	92.3	92.9	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0
8.000	89.7	92.3	92.9	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0	93.0
8.500	91.5	94.2	94.9	95.3	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
9.000	91.8	94.5	95.3	95.6	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9
9.500	94.0	96.8	97.5	97.8	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4
10.000	94.4	97.5	98.3	98.6	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
10.500	94.5	98.1	98.8	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
11.000	94.5	98.1	98.8	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
11.500	94.5	98.1	98.9	99.2	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
12.000	94.5	98.1	98.9	99.2	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
12.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
13.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
13.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
14.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
14.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
15.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
17.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
17.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
18.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
18.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
19.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
19.500	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
20.000	94.5	98.2	99.1	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14.5 (L A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

CEILING	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
1000	70.4	71.3	71.4	71.4	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5
900	76.1	77.1	77.4	77.4	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6
800	76.8	77.7	78.1	78.1	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
700	76.9	77.8	78.2	78.2	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4	78.4
600	77.7	78.7	79.0	79.0	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2	79.2
500	78.9	80.2	80.5	80.5	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8
400	83.1	84.4	84.7	84.7	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9
300	83.5	84.8	85.2	85.2	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4
200	85.6	87.1	87.4	87.4	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6
100	86.6	88.3	88.6	88.6	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8	88.8
0	88.4	90.5	90.9	90.9	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1
1000	90.8	93.0	93.3	93.3	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8
900	91.3	93.5	93.9	93.9	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3
800	93.0	95.8	96.1	96.1	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
700	93.2	96.1	96.5	96.6	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
600	94.4	97.6	98.0	98.1	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
500	94.4	97.6	98.0	98.1	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
400	94.8	98.2	98.5	98.6	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
300	94.8	98.2	98.5	98.6	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
200	95.2	98.5	98.8	98.9	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
100	95.5	98.8	99.1	99.2	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
0	95.5	98.8	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
1000	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
900	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
800	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
700	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
600	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
500	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
400	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
300	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
200	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0	95.5	98.9	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

JUL

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

ALL

CEILING FEET	VISIBILITY STATUTE MILES															
	≥ 10	≥ 6	≥ 5	≥ 4	≥ 3	≥ 2	≥ 1	≥ 1/2	≥ 1/4	≥ 1/8	≥ 1/16	≥ 1/32	≥ 1/64	≥ 1/128	≥ 1/256	≥ 1/512
NO CEILING	63.3	64.8	65.1	65.2	65.4	65.4	65.5	65.5	65.5	65.5	65.5	65.5	65.6	65.6	65.6	65.6
≥ 2000	71.5	73.2	73.6	73.7	73.9	74.0	74.0	74.0	74.0	74.1	74.1	74.1	74.1	74.1	74.2	74.2
≥ 1800	71.9	73.6	74.0	74.1	74.3	74.3	74.4	74.4	74.4	74.4	74.4	74.4	74.5	74.5	74.5	74.5
≥ 1600	72.0	73.8	74.2	74.2	74.4	74.5	74.5	74.6	74.6	74.6	74.6	74.6	74.7	74.7	74.7	74.7
≥ 1400	73.1	74.9	75.3	75.4	75.6	75.6	75.7	75.7	75.7	75.7	75.7	75.7	75.8	75.8	75.8	75.8
≥ 1200	74.6	76.5	76.9	77.0	77.2	77.2	77.3	77.3	77.3	77.3	77.3	77.3	77.4	77.4	77.4	77.4
≥ 1000	78.6	80.9	81.3	81.4	81.6	81.7	81.7	81.7	81.7	81.8	81.8	81.8	81.8	81.8	81.9	81.9
≥ 900	79.0	81.3	81.8	81.9	82.1	82.1	82.2	82.2	82.2	82.2	82.2	82.2	82.3	82.3	82.3	82.3
≥ 800	81.0	83.5	84.0	84.1	84.3	84.3	84.4	84.4	84.4	84.4	84.4	84.5	84.5	84.5	84.5	84.6
≥ 700	82.3	85.0	85.4	85.6	85.8	85.9	85.9	85.9	85.9	86.0	86.0	86.0	86.0	86.0	86.1	86.1
≥ 600	83.8	86.6	87.1	87.3	87.5	87.6	87.6	87.6	87.7	87.7	87.7	87.7	87.8	87.8	87.8	87.8
≥ 500	85.8	88.9	89.4	89.6	89.9	89.9	90.0	90.0	90.0	90.1	90.1	90.1	90.1	90.1	90.2	90.2
≥ 400	86.2	89.3	89.8	90.0	90.3	90.3	90.4	90.4	90.4	90.5	90.5	90.5	90.5	90.5	90.6	90.6
≥ 350	87.7	91.1	91.7	92.0	92.3	92.4	92.5	92.5	92.5	92.5	92.5	92.5	92.6	92.6	92.6	92.6
≥ 300	88.0	91.7	92.3	92.6	92.9	93.0	93.1	93.1	93.1	93.1	93.1	93.2	93.2	93.2	93.3	93.3
≥ 250	89.9	93.8	94.4	94.7	95.1	95.2	95.3	95.3	95.3	95.3	95.3	95.4	95.4	95.4	95.4	95.5
≥ 200	90.4	94.5	95.1	95.4	95.8	95.9	96.0	96.0	96.0	96.0	96.0	96.1	96.1	96.1	96.2	96.2
≥ 150	91.1	95.4	96.0	96.3	96.7	96.8	96.9	96.9	96.9	97.0	97.0	97.0	97.0	97.0	97.1	97.1
≥ 100	91.2	95.5	96.1	96.4	96.8	96.9	97.0	97.0	97.0	97.1	97.1	97.1	97.1	97.1	97.2	97.2
≥ 75	91.7	96.0	96.7	97.0	97.4	97.5	97.6	97.6	97.6	97.7	97.7	97.7	97.7	97.7	97.8	97.8
≥ 50	92.0	96.4	97.1	97.4	97.9	97.9	98.0	98.1	98.1	98.1	98.1	98.1	98.2	98.2	98.2	98.2
≥ 25	92.2	96.7	97.5	97.8	98.3	98.4	98.5	98.5	98.5	98.6	98.6	98.6	98.6	98.6	98.7	98.7
≥ 10	92.2	96.8	97.6	97.9	98.4	98.5	98.6	98.6	98.6	98.7	98.7	98.7	98.7	98.7	98.8	98.8
≥ 5	92.2	96.9	97.7	98.1	98.6	98.7	98.8	98.8	98.8	98.8	98.9	98.9	99.0	99.0	99.0	99.0
≥ 2	92.3	97.1	97.9	98.3	98.8	98.9	99.0	99.0	99.0	99.0	99.0	99.1	99.1	99.2	99.2	99.2
≥ 1	92.3	97.2	98.0	98.4	99.0	99.0	99.2	99.2	99.2	99.2	99.2	99.3	99.3	99.3	99.4	99.4
≥ 1/2	92.3	97.2	98.0	98.5	99.2	99.2	99.3	99.4	99.4	99.4	99.5	99.5	99.5	99.5	99.6	99.6
≥ 1/4	92.4	97.3	98.2	98.6	99.3	99.4	99.5	99.6	99.6	99.6	99.6	99.7	99.7	99.7	99.8	99.8
≥ 1/8	92.4	97.3	98.2	98.7	99.4	99.4	99.6	99.7	99.7	99.7	99.7	99.8	99.8	99.9	99.9	99.9
≥ 1/16	92.4	97.3	98.2	98.7	99.4	99.4	99.6	99.7	99.7	99.7	99.8	99.8	99.9	99.9	100.0	100.0
≥ 1/32	92.4	97.3	98.2	98.7	99.4	99.4	99.6	99.7	99.7	99.7	99.8	99.8	99.9	99.9	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 7490

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-0500

	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2000	59.6	62.3	62.8	63.2	63.9	63.9	64.0	64.3	64.3	64.5	64.5	64.5	64.5	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7	64.7
1800	63.5	66.2	66.8	67.2	67.8	67.8	68.0	68.3	68.3	68.5	68.5	68.5	68.5	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7
1600	63.8	66.5	67.0	67.4	68.1	68.1	68.2	68.5	68.5	68.7	68.7	68.7	68.7	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9
1400	63.8	66.5	67.0	67.4	68.1	68.1	68.2	68.5	68.5	68.7	68.7	68.7	68.7	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9
1200	64.3	67.0	67.5	68.0	68.6	68.6	68.7	69.0	69.0	69.2	69.2	69.2	69.2	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5	69.5
1000	66.1	68.9	69.5	69.9	70.5	70.5	70.6	71.0	71.0	71.2	71.2	71.2	71.2	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4	71.4
0800	72.0	75.2	75.7	76.1	76.8	76.8	76.9	77.2	77.2	77.4	77.4	77.4	77.4	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6	77.6
0600	72.4	75.5	76.0	76.5	77.1	77.1	77.2	77.5	77.5	77.7	77.7	77.7	77.7	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0	78.0
0400	76.8	80.4	81.0	81.4	82.0	82.0	82.2	82.5	82.5	82.7	82.7	82.7	82.7	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9
0200	77.8	81.6	82.2	82.7	83.3	83.3	83.4	83.8	83.8	84.0	84.0	84.0	84.0	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2	84.2
0000	78.6	82.4	82.9	83.4	84.1	84.1	84.2	84.5	84.5	84.7	84.7	84.7	84.7	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9
2200	80.9	84.7	85.3	85.8	86.5	86.5	86.6	86.9	86.9	87.1	87.1	87.1	87.1	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3	87.3
2000	81.1	84.9	85.5	86.0	86.7	86.7	86.8	87.1	87.1	87.3	87.3	87.3	87.3	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
1800	82.8	87.4	88.1	88.6	89.4	89.4	89.5	89.8	89.8	90.0	90.0	90.0	90.0	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2
1600	83.9	88.5	89.1	89.7	90.4	90.4	90.5	90.9	90.9	91.1	91.1	91.1	91.1	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3
1400	85.2	90.2	90.9	91.4	92.3	92.3	92.4	92.7	92.7	92.9	92.9	92.9	92.9	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1
1200	85.4	90.5	91.2	91.8	92.7	92.7	92.8	93.1	93.1	93.3	93.3	93.3	93.3	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5
1000	85.8	91.1	91.8	92.5	93.7	93.7	93.8	94.1	94.1	94.3	94.3	94.3	94.3	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5
0800	85.9	91.2	91.9	92.6	93.8	93.8	93.9	94.2	94.2	94.4	94.4	94.4	94.4	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6
0600	86.6	91.9	92.9	93.5	94.7	94.7	94.8	95.2	95.2	95.4	95.4	95.4	95.4	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
0400	86.7	92.5	93.4	94.1	95.3	95.3	95.4	95.7	95.7	95.9	95.9	95.9	95.9	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
0200	87.0	93.0	94.0	94.7	95.9	95.9	96.0	96.3	96.3	96.6	96.6	96.6	96.6	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8
0000	87.1	93.1	94.1	94.8	96.0	96.0	96.1	96.5	96.5	96.7	96.7	96.7	96.7	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
2200	87.1	93.1	94.1	94.8	96.0	96.0	96.1	96.5	96.5	96.7	96.7	96.7	96.7	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
2000	87.1	93.1	94.1	94.8	96.1	96.1	96.5	96.8	96.8	97.1	97.1	97.1	97.1	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
1800	87.4	93.7	94.6	95.4	96.7	96.7	97.0	97.3	97.3	97.6	97.6	97.6	97.6	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8	97.8
1600	87.5	93.8	94.7	95.5	96.9	96.9	97.2	97.5	97.5	98.0	98.0	98.0	98.0	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
1400	87.5	93.8	94.9	95.7	97.2	97.2	97.6	98.3	98.3	98.9	98.9	98.9	98.9	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
1200	87.5	93.9	95.1	95.8	97.3	97.3	97.7	98.4	98.6	99.4	99.4	99.4	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
1000	87.5	94.0	95.2	95.9	97.4	97.4	98.1	98.7	98.9	99.7	99.7	99.7	99.7	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
0800	87.5	94.0	95.2	95.9	97.4	97.4	98.1	98.7	98.9	99.7	99.7	99.7	99.7	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14.5-OL A: PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB MO

73-82

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

3600-3000

WIND DIRECTION (DEGREES)																
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
46.7	51.8	53.4	54.3	55.2	55.3	55.5	55.8	55.8	55.8	55.8	55.8	55.8	55.9	56.0	56.2	56.2
53.0	59.1	60.9	61.9	62.8	62.9	63.2	63.3	63.5	63.5	63.5	63.5	63.5	63.7	63.8	64.0	64.0
53.4	59.7	61.4	62.5	63.3	63.4	63.8	64.1	64.1	64.1	64.1	64.1	64.1	64.2	64.3	64.5	64.5
53.4	59.7	61.4	62.5	63.3	63.4	63.8	64.1	64.1	64.1	64.1	64.1	64.1	64.2	64.3	64.5	64.5
55.1	61.5	63.2	64.3	65.2	65.3	65.6	66.0	66.0	66.0	66.0	66.0	66.0	66.1	66.2	66.5	66.5
56.3	62.8	64.5	65.6	66.5	66.6	66.9	67.3	67.3	67.3	67.3	67.3	67.3	67.4	67.5	67.7	67.7
61.2	67.6	69.4	70.4	71.3	71.4	71.8	72.4	72.4	72.4	72.4	72.4	72.4	72.5	72.6	72.8	72.8
62.2	68.7	70.4	71.5	72.4	72.5	72.9	73.4	73.4	73.4	73.4	73.4	73.4	73.5	73.7	73.9	73.9
66.0	72.9	74.6	75.7	76.6	76.7	77.1	77.6	77.6	77.6	77.6	77.6	77.6	77.7	77.8	78.1	78.1
67.0	73.9	75.7	76.8	77.6	77.7	78.2	78.7	78.7	78.7	78.7	78.7	78.7	78.8	78.9	79.1	79.1
68.5	75.9	77.7	78.8	79.7	79.8	80.2	80.8	80.8	80.8	80.8	80.8	80.8	80.9	81.0	81.2	81.2
69.7	77.3	79.4	80.4	81.3	81.4	81.8	82.4	82.4	82.4	82.4	82.4	82.4	82.5	82.6	82.8	82.8
69.8	77.4	79.5	80.5	81.5	81.6	82.0	82.6	82.6	82.6	82.6	82.6	82.6	82.7	82.8	83.0	83.0
71.3	79.1	81.3	82.6	83.8	83.9	84.3	84.8	84.8	84.8	84.8	84.8	84.8	84.9	85.1	85.3	85.3
72.7	80.0	82.3	83.7	84.9	85.1	85.5	86.0	86.0	86.0	86.0	86.0	86.0	86.1	86.2	86.5	86.5
73.8	82.4	84.6	86.1	87.7	87.8	88.3	88.8	88.8	88.8	88.8	88.8	88.8	88.9	89.0	89.2	89.2
73.9	82.6	84.8	86.3	88.0	88.1	88.5	89.0	89.0	89.0	89.0	89.0	89.0	89.1	89.2	89.5	89.5
74.7	83.7	86.1	87.5	89.1	89.4	89.8	90.3	90.3	90.3	90.3	90.3	90.3	90.4	90.5	90.8	90.8
74.9	83.9	86.2	87.7	89.4	89.6	90.0	90.5	90.5	90.5	90.5	90.5	90.5	90.6	90.8	91.0	91.0
75.6	84.9	87.5	89.1	90.9	91.1	91.5	92.0	92.0	92.0	92.0	92.0	92.0	92.2	92.3	92.5	92.5
76.1	85.6	88.2	90.1	91.9	92.2	92.6	93.1	93.1	93.1	93.1	93.1	93.1	93.2	93.3	93.5	93.5
76.3	86.0	88.6	90.5	92.5	92.8	93.3	93.9	93.9	93.9	93.9	93.9	93.9	94.0	94.1	94.3	94.3
76.7	86.3	88.9	90.9	92.8	93.1	93.7	94.2	94.2	94.3	94.3	94.3	94.3	94.4	94.5	94.7	94.7
77.0	86.7	89.2	91.2	93.3	93.7	94.2	94.7	94.7	94.8	94.8	94.8	94.8	94.9	95.1	95.3	95.3
77.1	86.8	89.5	91.4	93.5	93.9	94.4	94.9	94.9	95.1	95.1	95.1	95.1	95.2	95.3	95.5	95.5
77.2	87.0	89.7	91.6	93.9	94.2	94.7	95.3	95.3	95.4	95.4	95.4	95.4	95.5	95.6	95.8	95.8
77.6	87.6	90.4	92.6	94.9	95.3	95.9	96.5	96.5	96.6	96.6	96.6	96.6	96.7	96.8	97.0	97.0
77.7	87.8	90.9	93.0	95.4	95.7	96.3	97.0	97.0	97.3	97.3	97.3	97.3	97.5	97.6	97.8	97.8
77.7	88.0	91.0	93.1	95.5	95.9	96.8	97.4	97.6	98.1	98.2	98.2	98.2	98.5	98.6	98.9	98.9
77.7	88.0	91.1	93.2	95.6	96.0	96.9	97.5	97.7	98.3	98.4	98.4	98.4	98.8	98.9	99.4	99.5
77.7	88.0	91.2	93.3	95.7	96.1	97.1	97.7	98.0	98.5	98.6	98.6	98.6	99.0	99.1	99.6	99.9
77.7	88.0	91.2	93.3	95.7	96.1	97.1	97.7	98.0	98.5	98.6	98.6	98.6	99.0	99.1	99.6	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1900-1100

51.6	55.8	56.7	56.3	56.5	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6
59.7	64.1	64.5	64.8	64.9	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
59.7	64.9	65.4	65.7	65.8	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
59.7	64.9	65.4	65.7	65.8	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
60.4	65.8	66.2	66.6	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
62.4	67.8	68.3	68.6	68.7	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
65.8	71.5	71.9	72.3	72.4	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6
66.6	72.4	72.8	73.1	73.2	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4
68.8	75.1	75.5	75.8	75.9	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1
69.6	76.0	76.5	76.8	77.0	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
70.5	77.1	77.5	77.8	78.1	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
71.8	79.2	79.8	80.2	80.4	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8
71.9	79.4	79.9	80.3	80.6	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0
73.1	81.0	81.6	82.5	82.8	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3
73.8	81.7	82.4	83.2	83.5	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
76.3	84.6	85.3	86.1	86.7	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2
77.4	85.9	86.6	87.4	88.0	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5
78.6	87.3	88.2	89.0	89.6	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
79.1	87.7	88.8	89.7	90.2	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8	90.8
79.6	88.5	89.6	90.4	91.0	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5
80.6	90.0	91.3	92.3	92.9	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4
81.4	91.0	92.4	93.3	94.0	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5	94.5
81.9	91.5	93.1	94.2	94.8	95.4	95.4	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
82.2	91.7	93.3	94.4	95.2	95.7	95.7	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
82.5	92.5	94.3	95.4	96.1	96.7	96.7	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8
82.6	92.6	94.5	95.6	96.5	97.1	97.1	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
82.8	93.2	95.3	96.3	97.4	98.1	98.1	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
82.9	93.4	95.7	96.8	97.8	98.6	98.7	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
82.9	93.4	95.8	96.9	98.0	99.0	99.2	99.7	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
82.9	93.4	95.8	96.9	98.0	99.0	99.2	99.7	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
82.9	93.4	95.8	96.9	98.0	99.0	99.2	99.7	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
82.9	93.4	95.8	96.9	98.0	99.0	99.2	99.7	99.8	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 14-5-02 A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1700

52.1	57.3	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
60.6	66.9	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
61.0	67.3	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5
61.0	67.3	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5
61.3	67.8	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
63.1	69.6	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.8
67.5	74.7	75.1	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3
68.1	75.4	75.7	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9
72.4	79.7	80.2	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4
73.0	80.6	81.2	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4
74.2	82.1	82.6	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8
76.9	85.2	85.8	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0
77.5	85.8	86.5	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8
80.2	89.1	89.9	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2
80.6	89.9	90.6	91.0	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1
83.3	92.9	93.8	94.1	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2
85.4	95.5	96.3	96.7	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
86.0	96.2	97.1	97.4	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6
86.2	96.6	97.4	97.7	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
86.5	96.8	97.6	98.0	98.2	98.2	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
86.9	97.6	98.5	98.8	99.0	99.0	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
86.9	97.6	98.5	98.8	99.1	99.2	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
86.9	97.6	98.5	98.8	99.1	99.2	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
86.9	97.8	98.7	99.0	99.4	99.5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.9	98.0	98.8	99.1	99.5	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1800-2000

CEILING (FEET)																			
2	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
56.2	61.5	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8
63.0	68.9	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2
63.9	69.8	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1
63.9	69.8	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.1
64.3	70.2	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
65.7	72.0	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4
69.8	76.7	77.1	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
70.9	78.1	78.4	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6
74.6	82.0	82.4	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6
75.3	82.8	83.1	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3
77.1	85.2	85.5	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
79.8	86.1	88.4	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6	88.6
80.4	88.7	89.1	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2	89.2
82.9	92.2	92.5	93.0	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1
83.2	92.6	93.0	93.5	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7	93.7
85.6	95.6	96.1	96.7	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8
86.7	96.3	97.7	97.5	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6
86.1	97.1	97.8	98.4	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
86.1	97.1	97.8	98.4	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
86.2	97.2	98.0	98.5	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6
86.2	97.2	98.0	98.5	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6	98.6
86.2	97.2	98.1	98.6	98.7	98.7	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
86.2	97.2	98.1	98.6	98.7	98.7	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1
86.2	97.3	98.2	98.8	99.0	99.0	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5
86.2	97.4	98.3	99.0	99.2	99.2	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
86.2	97.4	98.3	99.0	99.2	99.2	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
86.2	97.4	98.4	99.1	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
86.2	97.4	98.4	99.1	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
86.2	97.4	98.4	99.1	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
86.2	97.4	98.4	99.1	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8
86.2	97.4	98.4	99.1	99.4	99.4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8

TOTAL NUMBER OF OBSERVATIONS 930

CEILING VERSUS VISIBILITY

AUG

2150-2322

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

AUG

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

56.3	60.4	60.8	61.1	61.3	61.4	61.4	61.5	61.5	61.5	61.5	61.5	61.6	61.6	61.6	61.6
52.8	67.5	68.0	68.3	68.5	68.6	68.6	68.7	68.7	68.7	68.7	68.7	68.8	68.8	68.8	68.8
63.1	67.9	68.4	68.7	69.0	69.0	69.1	69.1	69.1	69.2	69.2	69.2	69.2	69.2	69.2	69.2
53.1	67.9	68.4	68.7	69.0	69.0	69.1	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.3	69.3
63.9	68.8	69.3	69.6	69.9	69.9	69.9	70.0	70.0	70.1	70.1	70.1	70.1	70.1	70.1	70.1
65.6	70.6	71.1	71.4	71.7	71.7	71.8	71.9	71.9	71.9	71.9	71.9	71.9	71.9	72.0	72.0
70.0	75.3	75.8	76.2	76.5	76.5	76.6	76.7	76.7	76.7	76.7	76.7	76.8	76.8	76.8	76.8
70.8	76.1	76.7	77.0	77.3	77.4	77.4	77.5	77.5	77.6	77.6	77.6	77.6	77.6	77.6	77.6
74.3	79.9	80.5	80.8	81.1	81.1	81.2	81.3	81.3	81.3	81.3	81.3	81.4	81.4	81.4	81.4
75.2	80.9	81.5	81.8	82.1	82.2	82.2	82.3	82.3	82.4	82.4	82.4	82.4	82.4	82.4	82.4
76.2	82.0	82.6	83.0	83.3	83.3	83.4	83.5	83.5	83.5	83.5	83.5	83.6	83.6	83.6	83.6
78.3	84.6	85.3	85.7	86.0	86.0	86.1	86.2	86.2	86.3	86.3	86.3	86.3	86.3	86.3	86.3
78.5	84.9	85.6	86.0	86.3	86.4	86.4	86.5	86.5	86.6	86.6	86.6	86.6	86.6	86.7	86.7
80.3	87.3	88.0	88.4	89.1	89.1	89.2	89.3	89.3	89.4	89.4	89.4	89.4	89.4	89.4	89.4
80.9	88.0	88.8	89.4	89.9	89.9	90.0	90.1	90.1	90.1	90.1	90.1	90.2	90.2	90.2	90.2
82.8	90.4	91.2	91.8	92.4	92.5	92.6	92.7	92.7	92.7	92.7	92.7	92.8	92.8	92.8	92.8
83.7	91.5	92.4	93.0	93.6	93.7	93.8	93.9	93.9	93.9	93.9	93.9	94.0	94.0	94.0	94.0
84.4	92.4	93.4	94.0	94.7	94.8	94.9	95.0	95.0	95.0	95.0	95.0	95.1	95.1	95.1	95.1
84.6	92.7	93.7	94.4	95.1	95.2	95.3	95.4	95.4	95.4	95.4	95.4	95.4	95.4	95.5	95.5
85.0	93.3	94.4	95.1	95.8	95.9	96.0	96.2	96.2	96.2	96.2	96.2	96.3	96.3	96.3	96.3
85.5	94.0	95.1	95.8	96.6	96.7	96.9	97.0	97.0	97.1	97.1	97.1	97.1	97.1	97.1	97.1
85.7	94.3	95.5	96.2	97.0	97.1	97.4	97.5	97.5	97.5	97.5	97.5	97.6	97.6	97.6	97.6
85.8	94.5	95.7	96.5	97.2	97.4	97.6	97.7	97.7	97.8	97.8	97.8	97.8	97.8	97.9	97.9
85.9	94.7	95.9	96.6	97.5	97.6	97.8	98.0	98.0	98.0	98.0	98.0	98.1	98.1	98.1	98.1
86.3	94.8	96.1	96.8	97.7	97.8	98.0	98.2	98.2	98.2	98.2	98.2	98.3	98.3	98.3	98.3
86.0	94.9	96.1	96.9	97.8	97.9	98.2	98.3	98.3	98.4	98.4	98.4	98.5	98.5	98.5	98.5
86.2	95.1	96.4	97.3	98.2	98.3	98.6	98.7	98.8	98.9	98.9	98.9	98.9	98.9	99.0	99.0
86.2	95.3	96.6	97.4	98.3	98.5	98.8	99.0	99.0	99.2	99.2	99.2	99.2	99.3	99.3	99.3
86.2	95.3	96.7	97.5	98.4	98.6	99.0	99.3	99.3	99.6	99.6	99.6	99.7	99.7	99.7	99.7
86.2	95.3	96.7	97.5	98.5	98.7	99.0	99.3	99.4	99.6	99.7	99.7	99.8	99.8	99.8	99.8
86.2	95.3	96.7	97.5	98.5	98.7	99.1	99.4	99.4	99.7	99.8	99.8	99.9	99.9	99.9	99.9
86.2	95.3	96.7	97.5	98.5	98.7	99.1	99.4	99.4	99.7	99.8	99.8	99.9	99.9	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 7440

2

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73-82

SEP

0000-0200

1

900

USAF FIAC 0-14-5 IOL A. PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-0500

		VISIBILITY - STATUTE MILES																
		1/8	1/4	1/2	3/4	1	2	3	4	5	6	7	8	9	10	11	12	
1/8	1/4	61.9	64.0	64.1	64.3	64.4	64.4	64.4	64.7	64.7	64.7	64.8	64.8	64.8	65.0	65.4	65.4	
1/4	1/2	64.4	66.6	66.7	66.9	67.0	67.0	67.0	67.2	67.2	67.2	67.3	67.3	67.3	67.6	68.0	68.0	
1/2	3/4	64.4	66.6	66.7	66.9	67.0	67.0	67.0	67.2	67.2	67.2	67.3	67.3	67.3	67.6	68.0	68.0	
3/4	1	64.7	66.8	66.9	67.1	67.2	67.2	67.2	67.4	67.4	67.4	67.6	67.6	67.6	67.8	68.2	68.2	
1	2	65.2	67.3	67.4	67.7	67.8	67.8	67.8	68.0	68.0	68.0	68.1	68.1	68.1	68.3	68.8	68.8	
2	3	66.4	68.6	68.7	68.9	69.0	69.0	69.0	69.2	69.2	69.2	69.3	69.3	69.3	69.6	70.0	70.0	
3	4	70.1	72.4	72.6	72.8	72.9	72.9	72.9	73.1	73.1	73.1	73.2	73.2	73.2	73.4	73.9	73.9	
4	5	70.4	72.8	72.9	73.1	73.2	73.2	73.2	73.4	73.4	73.4	73.6	73.6	73.6	73.8	74.2	74.2	
5	6	72.4	74.8	74.9	75.1	75.2	75.2	75.2	75.4	75.4	75.4	75.6	75.6	75.6	75.8	76.2	76.2	
6	7	73.7	76.1	76.2	76.4	76.6	76.6	76.6	76.8	76.8	76.8	76.9	76.9	76.9	77.1	77.6	77.6	
7	8	75.1	77.6	78.0	78.2	78.3	78.3	78.3	78.6	78.6	78.6	78.7	78.7	78.7	78.9	79.3	79.3	
8	9	76.2	79.0	79.2	79.4	79.6	79.6	79.6	79.8	79.8	79.8	79.9	79.9	79.9	80.1	80.6	80.6	
9	10	76.9	79.7	79.9	80.1	80.2	80.2	80.2	80.4	80.4	80.4	80.6	80.6	80.6	80.8	81.2	81.2	
10	11	78.9	82.0	82.2	82.4	82.6	82.6	82.6	82.8	82.8	82.8	82.9	82.9	82.9	83.1	83.6	83.6	
11	12	79.7	82.8	83.0	83.2	83.3	83.3	83.3	83.6	83.6	83.6	83.7	83.7	83.7	83.9	84.3	84.3	
12	13	82.2	85.7	85.9	86.2	86.3	86.3	86.3	86.6	86.6	86.6	86.7	86.8	86.8	87.0	87.4	87.4	
13	14	83.2	86.8	87.0	87.3	87.4	87.4	87.4	87.7	87.7	87.7	87.8	87.9	87.9	88.1	88.6	88.6	
14	15	83.8	87.3	87.6	87.9	88.0	88.0	88.0	88.2	88.2	88.2	88.3	88.4	88.4	88.7	89.1	89.1	
15	16	84.2	87.8	88.0	88.3	88.4	88.4	88.4	88.7	88.7	88.7	88.8	88.9	88.9	89.1	89.6	89.6	
16	17	84.8	88.3	88.7	89.0	89.1	89.1	89.1	89.3	89.3	89.3	89.4	89.6	89.6	89.8	90.2	90.2	
17	18	85.8	89.8	90.2	90.6	90.7	90.7	90.7	90.9	90.9	90.9	91.0	91.1	91.1	91.3	92.1	92.1	
18	19	87.2	91.2	91.8	92.1	92.2	92.2	92.2	92.4	92.4	92.4	92.6	92.7	92.7	92.9	93.7	93.7	
19	20	87.7	91.7	92.3	92.8	93.0	93.0	93.0	93.2	93.2	93.2	93.3	93.4	93.4	93.7	94.4	94.4	
20	21	88.3	92.4	93.2	94.0	94.2	94.2	94.2	94.4	94.4	94.4	94.6	94.7	94.7	94.9	95.7	95.7	
21	22	88.7	93.2	94.0	95.0	95.2	95.2	95.2	95.4	95.4	95.4	95.6	95.7	95.7	95.9	96.7	96.7	
22	23	88.9	93.6	94.4	95.4	96.0	96.0	96.0	96.1	96.3	96.3	96.3	96.4	96.6	96.6	96.8	97.6	97.6
23	24	89.1	93.8	94.8	95.8	96.4	96.4	96.4	96.6	96.8	96.8	96.8	96.9	97.0	97.0	97.2	98.0	98.0
24	25	89.1	94.1	95.1	96.1	97.0	97.0	97.0	97.1	97.3	97.3	97.3	97.4	97.6	97.7	97.9	98.8	98.8
25	26	89.1	94.2	95.2	96.2	97.1	97.1	97.1	97.8	98.1	98.1	98.1	98.2	98.3	98.4	98.7	99.7	99.7
26	27	89.1	94.2	95.2	96.2	97.2	97.2	97.2	98.0	98.3	98.3	98.4	98.6	98.7	98.8	99.0	100.0	100.0
27	28	89.1	94.2	95.2	96.2	97.2	97.2	97.2	98.0	98.3	98.3	98.4	98.6	98.7	98.8	99.0	100.0	100.0
28	29	89.1	94.2	95.2	96.2	97.2	97.2	97.2	98.0	98.3	98.3	98.4	98.6	98.7	98.8	99.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 (OL) ALL PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-2000

		VISIBILITY - STATUTE MILES															
		2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5
1000	53.8	56.8	57.2	57.3	57.8	57.8	57.9	57.9	57.9	58.0	58.0	58.1	58.2	58.2	58.3	58.3	58.3
900	57.4	60.9	61.3	61.4	61.9	61.9	62.0	62.0	62.0	62.1	62.1	62.2	62.3	62.3	62.4	62.4	62.4
800	57.4	60.9	61.3	61.4	61.9	61.9	62.0	62.0	62.0	62.1	62.1	62.2	62.3	62.3	62.4	62.4	62.4
700	57.4	60.9	61.3	61.4	61.9	61.9	62.0	62.0	62.0	62.1	62.1	62.2	62.3	62.3	62.4	62.4	62.4
600	58.0	61.4	61.9	62.0	62.4	62.4	62.6	62.6	62.6	62.7	62.7	62.8	62.9	62.9	63.0	63.0	63.0
500	59.1	62.7	63.1	63.2	63.7	63.7	63.8	63.8	63.8	63.9	63.9	64.0	64.1	64.1	64.2	64.2	64.2
400	62.1	65.9	66.3	66.4	66.9	66.9	67.0	67.0	67.0	67.1	67.1	67.2	67.3	67.3	67.4	67.4	67.4
300	62.6	66.3	66.8	66.9	67.3	67.3	67.4	67.4	67.4	67.6	67.6	67.7	67.8	67.8	67.9	67.9	67.9
200	65.2	69.2	69.7	69.8	70.2	70.2	70.3	70.3	70.3	70.4	70.4	70.6	70.7	70.7	70.8	70.8	70.8
100	66.3	70.4	70.9	71.0	71.4	71.4	71.6	71.6	71.6	71.7	71.7	71.8	71.9	71.9	72.0	72.0	72.0
000	67.8	72.0	72.4	72.6	73.0	73.0	73.1	73.1	73.1	73.2	73.2	73.3	73.4	73.4	73.6	73.6	73.6
000	69.6	74.0	74.6	74.7	75.1	75.1	75.2	75.2	75.2	75.3	75.3	75.4	75.6	75.6	75.7	75.7	75.7
000	70.1	74.7	75.2	75.3	75.8	75.8	75.9	75.9	75.9	76.0	76.0	76.1	76.2	76.2	76.3	76.3	76.3
000	72.9	77.9	78.4	78.6	79.0	79.0	79.1	79.1	79.1	79.2	79.2	79.3	79.4	79.4	79.6	79.6	79.6
000	73.9	79.0	79.6	79.7	80.1	80.1	80.2	80.2	80.2	80.3	80.3	80.4	80.6	80.6	80.7	80.7	80.7
000	76.2	81.7	82.2	82.3	82.9	82.9	83.0	83.1	83.1	83.2	83.2	83.3	83.4	83.4	83.6	83.6	83.6
000	76.8	82.4	83.0	83.1	83.7	83.8	83.9	84.0	84.0	84.1	84.1	84.2	84.3	84.3	84.4	84.4	84.4
000	78.0	83.7	84.4	84.6	85.1	85.2	85.6	85.7	85.7	85.8	85.8	85.9	86.0	86.0	86.1	86.1	86.1
000	78.4	84.2	85.0	85.1	85.7	85.8	86.1	86.2	86.2	86.3	86.3	86.4	86.6	86.6	86.7	86.7	86.7
000	79.9	85.8	86.6	86.7	87.2	87.3	87.8	87.9	87.9	88.0	88.0	88.1	88.2	88.2	88.3	88.3	88.3
000	80.9	87.0	87.8	88.0	88.7	88.8	89.2	89.3	89.3	89.4	89.4	89.6	89.7	89.7	89.8	89.8	89.8
000	83.2	89.6	90.4	90.7	91.3	91.4	91.9	92.0	92.0	92.1	92.1	92.2	92.3	92.3	92.4	92.4	92.4
000	83.9	90.3	91.2	91.4	92.1	92.2	92.8	92.9	92.9	93.0	93.0	93.1	93.2	93.2	93.3	93.3	93.3
000	84.7	91.4	92.4	92.9	93.7	93.8	94.3	94.6	94.6	94.7	94.7	94.8	94.9	94.9	95.0	95.0	95.0
000	85.1	92.0	93.1	93.7	94.6	94.7	95.4	95.7	95.7	95.8	95.8	95.9	96.0	96.0	96.1	96.1	96.1
000	85.1	92.0	93.1	93.7	94.7	94.8	95.7	95.9	95.9	96.0	96.0	96.1	96.2	96.2	96.3	96.3	96.3
000	85.2	92.2	93.6	94.1	95.3	95.4	96.4	96.7	96.7	96.8	96.9	97.0	97.1	97.1	97.2	97.2	97.2
000	85.2	92.3	93.7	94.3	95.8	95.9	97.2	97.4	97.4	97.6	97.7	97.8	97.9	97.9	98.1	98.1	98.1
000	85.2	92.3	93.8	94.4	96.0	96.1	97.7	98.1	98.2	98.3	98.4	98.6	98.7	98.7	99.0	99.3	99.3
000	85.2	92.3	93.8	94.4	96.0	96.1	97.8	98.2	98.3	98.4	98.6	98.7	98.9	98.9	99.3	99.7	99.7
000	85.2	92.3	93.8	94.4	96.0	96.1	97.8	98.2	98.3	98.4	98.7	98.8	99.0	99.0	99.4	99.8	99.8
000	85.2	92.3	93.8	94.4	96.0	96.1	97.8	98.2	98.3	98.4	98.7	98.8	99.0	99.0	99.4	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORMS AFB ND

73-62

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0900-1100

VISIBILITY (STATUTE MILES)																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
52.9	54.4	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6	54.6
58.1	60.2	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
58.2	60.3	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4
58.2	60.3	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4
59.1	61.3	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4	61.4
60.2	62.4	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
63.0	66.0	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2	66.2
63.7	67.0	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
66.2	70.0	70.2	70.3	70.4	70.4	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6
67.6	71.3	71.6	71.7	71.8	71.8	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9	71.9
68.4	72.3	72.6	72.7	72.9	72.9	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
70.6	74.6	74.8	74.9	75.1	75.1	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2
70.7	74.8	75.0	75.1	75.3	75.3	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4
73.0	77.3	77.8	77.9	78.1	78.1	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2
73.4	77.8	78.2	78.4	78.7	78.7	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8
75.9	80.7	81.1	81.4	81.8	81.8	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9	81.9
78.0	82.9	83.6	83.9	84.2	84.2	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3	84.3
80.3	85.4	86.1	86.4	86.9	87.0	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2	87.2
81.0	86.2	86.9	87.2	87.7	87.9	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1
82.6	88.1	88.9	89.2	89.8	90.0	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2
84.2	90.1	91.3	91.3	92.1	92.3	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
85.0	91.0	91.9	92.2	93.0	93.2	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4
85.3	91.3	92.2	92.6	93.3	93.6	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9
85.4	91.6	92.6	93.3	94.3	94.6	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9	94.9
86.1	92.4	93.7	94.6	95.6	96.0	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3	96.3
86.3	93.0	94.2	95.2	96.2	96.7	97.1	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
86.3	93.1	94.4	95.6	96.9	97.4	98.0	98.3	98.3	98.4	98.4	98.4	98.4	98.4	98.4	98.4	98.4
86.3	93.1	94.7	95.8	97.2	97.9	98.8	99.2	99.2	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
86.3	93.1	94.7	95.8	97.2	97.9	98.9	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.3	93.1	94.7	95.8	97.2	97.9	98.9	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
86.3	93.1	94.7	95.8	97.2	97.9	98.9	99.6	99.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1200-1420

		VISIBILITY (STATUTE MILES)															
CEILING (FEET)	NO. OF OBS.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
100	1	52.1	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
200	1	58.6	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1	60.1
300	1	58.8	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
400	1	58.9	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4	60.4
500	1	59.2	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9	60.9
600	1	60.8	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4
700	1	64.6	66.4	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6
800	1	64.9	66.9	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
900	1	66.8	69.0	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1
1000	1	67.6	69.8	70.0	70.0	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3
1100	1	68.1	70.3	70.7	70.7	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
1200	1	69.3	71.8	72.3	72.3	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7
1300	1	69.6	72.2	72.8	72.8	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
1400	1	72.7	75.3	76.0	76.0	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3	76.3
1500	1	74.2	77.2	77.9	77.9	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3	78.3
1600	1	77.8	81.1	82.0	82.0	82.9	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.0
1700	1	82.1	85.6	86.8	86.8	87.7	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8	87.8
1800	1	83.9	87.7	88.9	88.9	89.8	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
1900	1	84.4	88.2	89.6	89.6	90.6	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7	90.7
2000	1	85.6	89.7	91.1	91.4	92.4	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
2100	1	87.0	91.7	93.1	93.6	94.6	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7
2200	1	87.4	92.3	93.8	94.2	95.2	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3	95.3
2300	1	88.0	93.3	94.9	95.3	96.3	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4
2400	1	88.3	93.8	95.3	95.8	97.0	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
2500	1	88.3	93.8	95.3	95.8	97.0	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2
2600	1	88.3	93.9	95.4	95.9	97.3	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6	97.6
2700	1	88.3	93.9	95.4	96.2	97.9	98.2	98.3	98.8	98.8	98.9	98.9	98.9	98.9	98.9	98.9	98.9
2800	1	88.3	94.1	95.8	96.7	98.3	98.8	99.0	99.6	99.6	99.7	99.7	99.7	99.7	99.7	99.7	99.7
2900	1	88.3	94.2	95.9	96.8	98.4	98.9	99.1	99.7	99.7	99.9	99.9	99.9	99.9	99.9	99.9	99.9
3000	1	88.3	94.2	95.9	96.8	98.4	98.9	99.1	99.7	99.7	99.9	100.0	100.0	100.0	100.0	100.0	100.0
3100	1	88.3	94.2	95.9	96.8	98.4	98.9	99.1	99.7	99.7	99.9	100.0	100.0	100.0	100.0	100.0	100.0
3200	1	88.3	94.2	95.9	96.8	98.4	98.9	99.1	99.7	99.7	99.9	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS.

18JD-2000

60.9	62.1	62.1	62.2	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
64.3	65.7	65.7	65.8	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9	65.9
64.8	66.1	66.1	66.2	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
64.8	66.1	66.1	66.2	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
65.2	66.6	66.6	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
66.8	68.1	68.1	68.2	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3
70.3	71.7	71.7	71.8	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0
70.9	72.3	72.3	72.6	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
73.0	74.9	74.9	75.1	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3	75.3
74.1	76.0	76.0	76.3	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8
75.2	77.4	77.4	77.8	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2	78.2
77.6	79.9	79.9	80.2	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7
78.6	80.9	80.9	81.2	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
82.8	85.7	85.7	86.1	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
84.3	87.2	87.2	87.7	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1
85.4	88.9	89.0	89.4	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
87.1	91.0	91.2	91.7	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1
88.3	92.3	92.6	93.0	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4
88.6	92.7	92.9	93.3	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8
88.8	92.9	93.1	93.6	94.1	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2	94.2
89.3	94.0	94.2	94.9	95.6	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7
89.8	94.7	95.2	95.9	96.6	96.7	96.8	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9	96.9
90.2	95.4	96.1	96.8	97.6	97.8	97.9	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
90.2	95.7	96.7	97.3	98.1	98.3	98.6	98.7	98.7	98.8	98.8	98.8	98.8	98.8	98.8	98.8
90.2	95.8	96.8	97.4	98.2	98.4	98.8	99.0	99.0	99.1	99.1	99.1	99.1	99.1	99.1	99.1
90.3	95.9	96.9	97.6	98.3	98.6	98.9	99.1	99.1	99.2	99.2	99.2	99.2	99.2	99.2	99.2
90.3	95.9	97.1	98.0	98.9	99.1	99.4	99.7	99.7	99.8	99.8	99.8	99.8	99.8	99.8	99.8
90.3	95.9	97.1	98.0	99.0	99.2	99.6	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
90.3	95.9	97.1	98.0	99.0	99.2	99.6	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
90.3	95.9	97.1	98.0	99.0	99.2	99.6	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0
90.3	95.9	97.1	98.0	99.0	99.2	99.6	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 923

USAF ETAC 00145-01A 00145-01A 00145-01A 00145-01A

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

63.7	69.0	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.3	69.3
71.6	72.1	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.2	72.4	72.4
71.8	72.3	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.7	72.7
71.9	72.4	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.8	72.8
72.3	72.6	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.7	72.9	72.9
73.4	74.3	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.3	74.3
76.2	76.9	77.3	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.0	77.2	77.2
77.1	77.8	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9	78.1	78.1
78.4	79.2	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.3	79.6	79.6
78.9	79.7	79.8	79.8	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.2	80.2
79.7	80.4	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	81.0	81.0
82.6	83.6	83.7	83.7	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	84.1	84.1
83.8	84.8	84.9	84.9	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.1	85.3	85.3
86.1	87.1	87.2	87.2	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.7	87.7
86.6	87.6	87.7	87.7	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	87.9	88.1	88.1
88.1	89.2	89.4	89.4	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.9	89.9
89.1	90.3	90.6	90.6	90.8	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	91.1	91.1
89.8	91.0	91.2	91.2	91.4	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.6	91.8	91.8
90.0	91.3	91.6	91.6	91.8	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	92.1	92.1
90.4	91.8	92.1	92.2	92.4	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.8	92.8
90.8	92.2	92.9	93.0	93.2	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.7	93.7
91.8	93.7	94.3	94.6	94.8	95.0	95.1	95.1	95.1	95.2	95.2	95.2	95.2	95.2	95.2	95.4	95.4
92.0	94.7	95.0	95.3	95.8	96.0	96.1	96.1	96.1	96.2	96.2	96.2	96.2	96.2	96.2	96.4	96.4
92.4	95.0	96.2	96.6	97.1	97.3	97.4	97.4	97.4	97.6	97.6	97.6	97.6	97.6	97.6	97.8	97.8
92.7	95.4	96.8	97.2	97.8	98.0	98.3	98.3	98.4	98.6	98.6	98.6	98.6	98.6	98.6	98.8	98.8
92.7	95.4	96.8	97.2	97.8	98.0	98.3	98.3	98.4	98.6	98.6	98.6	98.6	98.6	98.6	98.8	98.8
92.7	95.4	97.2	97.7	98.3	98.6	98.9	98.9	99.0	99.1	99.2	99.2	99.2	99.2	99.2	99.4	99.4
92.7	95.6	97.3	97.8	98.4	98.7	99.0	99.0	99.1	99.2	99.3	99.3	99.3	99.3	99.3	99.7	99.7
92.7	95.6	97.3	97.8	98.4	98.7	99.2	99.3	99.4	99.6	99.7	99.7	99.7	99.8	99.8	100.0	100.0
92.7	95.6	97.3	97.8	98.4	98.7	99.2	99.3	99.4	99.6	99.7	99.7	99.7	99.8	99.8	100.0	100.0
92.7	95.6	97.3	97.8	98.4	98.7	99.2	99.3	99.4	99.6	99.7	99.7	99.7	99.8	99.8	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 DLA PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

SEP

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

58.8	60.4	60.5	60.6	60.7	60.7	60.7	60.7	60.7	60.7	60.8	60.8	60.8	60.8	61.7	61.0
62.8	64.6	64.7	64.8	64.9	64.9	64.9	64.9	64.9	65.0	65.0	65.0	65.1	65.1	65.2	65.2
63.1	64.8	64.9	65.0	65.1	65.1	65.1	65.1	65.1	65.1	65.2	65.2	65.2	65.3	65.4	65.4
63.1	64.8	64.9	65.0	65.1	65.1	65.1	65.2	65.2	65.2	65.2	65.2	65.3	65.3	65.4	65.4
63.5	65.4	65.5	65.5	65.6	65.6	65.7	65.7	65.7	65.7	65.7	65.8	65.8	65.8	65.9	66.0
64.9	66.7	66.8	66.9	67.0	67.0	67.0	67.0	67.0	67.1	67.1	67.1	67.1	67.2	67.3	67.3
68.2	70.2	70.4	70.5	70.6	70.6	70.6	70.7	70.7	70.7	70.7	70.7	70.8	70.8	70.9	70.9
68.7	70.9	71.0	71.1	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.4	71.4	71.4	71.6	71.6
70.8	73.1	73.2	73.3	73.5	73.5	73.5	73.6	73.6	73.6	73.6	73.6	73.7	73.7	73.8	73.8
71.8	74.2	74.4	74.5	74.8	74.8	74.8	74.8	74.8	74.9	74.9	74.9	74.9	75.0	75.1	75.1
72.7	75.3	75.6	75.7	76.0	76.0	76.0	76.0	76.0	76.1	76.1	76.1	76.1	76.2	76.3	76.3
74.5	77.3	77.5	77.7	78.0	78.0	78.0	78.0	78.0	78.1	78.1	78.1	78.2	78.2	78.3	78.3
75.2	78.1	78.3	78.5	78.8	78.8	78.8	78.8	78.8	78.9	78.9	78.9	78.9	79.0	79.1	79.1
76.2	81.3	81.6	81.8	82.1	82.1	82.1	82.2	82.2	82.2	82.2	82.2	82.3	82.3	82.4	82.4
74.2	82.4	82.7	82.9	83.3	83.3	83.3	83.3	83.3	83.4	83.4	83.4	83.4	83.5	83.6	83.6
81.4	84.9	85.4	85.6	86.0	86.1	86.1	86.1	86.1	86.2	86.2	86.2	86.3	86.3	86.4	86.4
83.3	87.0	87.5	87.8	88.2	88.3	88.3	88.3	88.3	88.4	88.4	88.4	88.5	88.5	88.6	88.6
84.5	88.3	88.9	89.1	89.6	89.6	89.7	89.7	89.7	89.8	89.8	89.8	89.9	89.9	90.0	90.0
84.9	88.8	89.3	89.6	90.1	90.1	90.2	90.3	90.3	90.3	90.3	90.3	90.4	90.4	90.5	90.6
85.7	89.7	90.4	90.7	91.2	91.3	91.4	91.4	91.4	91.4	91.5	91.5	91.5	91.6	91.7	91.7
86.7	91.1	91.6	92.1	92.7	92.8	92.9	92.9	92.9	93.0	93.0	93.0	93.1	93.1	93.3	93.3
87.7	92.4	93.2	93.6	94.2	94.3	94.4	94.5	94.5	94.5	94.6	94.6	94.6	94.7	94.9	94.9
88.2	93.0	93.9	94.3	95.0	95.2	95.3	95.4	95.4	95.5	95.5	95.5	95.6	95.6	95.8	95.8
88.5	93.6	94.7	95.2	96.0	96.2	96.3	96.4	96.4	96.5	96.5	96.5	96.6	96.6	96.8	96.8
88.7	94.0	95.1	95.8	96.7	96.8	97.1	97.2	97.2	97.3	97.3	97.3	97.4	97.4	97.6	97.6
88.8	94.1	95.3	96.0	97.0	97.1	97.4	97.5	97.6	97.7	97.7	97.7	97.8	97.8	98.0	98.0
88.9	94.3	95.6	96.4	97.6	97.8	98.1	98.3	98.3	98.5	98.5	98.5	98.6	98.6	98.8	98.8
88.9	94.4	95.8	96.6	97.8	98.1	98.5	98.8	98.8	98.9	99.0	99.0	99.1	99.2	99.4	99.4
88.9	94.4	95.8	96.6	97.9	98.1	98.7	99.1	99.1	99.3	99.3	99.4	99.5	99.5	99.8	99.8
88.9	94.4	95.8	96.6	97.9	98.2	98.8	99.1	99.2	99.3	99.4	99.4	99.6	99.6	99.9	100.0
88.9	94.4	95.8	96.6	97.9	98.2	98.8	99.1	99.2	99.3	99.4	99.5	99.6	99.7	99.9	100.0
88.9	94.4	95.8	96.6	97.9	98.2	98.8	99.1	99.2	99.3	99.4	99.5	99.6	99.7	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 7270

UNCLASSIFIED - PUBLIC DOMAIN - PREVIOUS EDITIONS MAY BE DIFFERENT

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

001

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

000-1200

53.3	53.7	53.7	53.8	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	53.9	54.0	54.0
56.1	56.6	56.6	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.9	56.9
56.1	56.6	56.6	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.9	56.9
56.1	56.9	56.9	57.0	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.2	57.2
57.4	58.3	58.3	58.4	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.5	58.6	58.6
59.4	60.4	60.4	60.5	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.8	60.8
64.1	65.3	65.3	65.4	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.5	65.6	65.6
64.5	65.9	65.9	66.0	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.2	66.2
67.1	68.5	68.5	68.6	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.7	68.9	68.9
68.8	70.2	70.2	70.6	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	70.8	71.0	71.0
70.3	71.8	71.8	72.3	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.6	72.6
73.3	75.5	75.5	75.9	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.2	76.2
75.1	77.3	77.3	77.7	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	77.8	78.1	78.1
78.5	81.1	81.1	81.5	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.8	81.8
79.4	81.9	81.9	82.4	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.7	82.7
81.7	83.9	83.9	84.3	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.6	84.6
83.2	86.7	86.7	87.3	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.4	87.6	87.6
85.1	88.9	89.2	89.7	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.8	89.9	89.9
85.2	89.1	89.4	89.8	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	90.0	90.0
86.2	90.2	90.9	91.3	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.6	91.6
86.6	92.2	92.8	93.2	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.5	93.7
86.6	92.7	93.3	93.9	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.5	94.5
86.6	93.1	93.9	94.4	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.9	95.1
86.6	93.1	93.9	94.4	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.9	95.1
86.9	93.5	94.5	95.1	96.0	96.0	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.2	96.3	96.5
86.9	94.0	94.9	95.7	96.9	96.9	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.1	97.2	97.3
86.9	94.0	95.2	95.9	97.4	97.4	98.2	98.3	98.3	98.4	98.4	98.4	98.4	98.4	98.4	98.5	98.6
86.9	94.0	95.2	95.9	97.4	97.4	98.3	98.4	98.4	98.5	98.5	98.5	98.5	98.5	98.5	98.6	98.7
87.0	94.1	95.3	96.3	97.8	97.8	98.7	98.9	98.9	99.0	99.0	99.0	99.0	99.0	99.0	99.1	99.2
87.0	94.1	95.4	96.5	98.0	98.0	98.9	99.1	99.1	99.5	99.5	99.5	99.5	99.5	99.5	99.6	99.7
87.0	94.1	95.4	96.5	98.0	98.0	98.9	99.1	99.1	99.5	99.5	99.5	99.5	99.5	99.5	99.6	99.7
87.0	94.1	95.4	96.5	98.0	98.0	98.9	99.1	99.1	99.5	99.5	99.5	99.5	99.5	99.5	99.6	99.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

901

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

300-0500

54.1	55.1	55.1	55.2	55.3	55.3	55.8	55.8	55.8	55.8	55.9	55.9	55.9	55.9	56.0	56.0
56.9	58.3	58.3	58.4	58.6	58.6	59.0	59.0	59.0	59.0	59.1	59.1	59.1	59.1	59.2	59.2
57.1	58.4	58.4	58.6	58.7	58.7	59.1	59.1	59.1	59.1	59.2	59.2	59.2	59.2	59.3	59.3
57.1	58.4	58.4	58.6	58.7	58.7	59.1	59.1	59.1	59.1	59.2	59.2	59.2	59.2	59.3	59.3
57.8	59.2	59.2	59.3	59.4	59.4	59.8	59.8	59.8	59.8	60.0	60.0	60.0	60.0	60.1	60.1
59.5	61.1	61.1	61.2	61.4	61.4	61.8	61.8	61.8	61.8	61.9	61.9	61.9	61.9	62.0	62.0
63.3	65.2	65.2	65.3	65.4	65.4	65.9	65.9	65.9	65.9	66.0	66.0	66.0	66.0	66.1	66.1
63.7	65.7	65.7	65.8	65.9	65.9	66.3	66.3	66.3	66.3	66.4	66.4	66.4	66.4	66.5	66.5
65.1	67.2	67.2	67.3	67.4	67.4	67.8	67.8	67.8	67.8	67.9	67.9	67.9	67.9	68.0	68.0
66.8	68.9	68.9	69.0	69.1	69.1	69.5	69.5	69.5	69.5	69.6	69.6	69.6	69.6	69.8	69.8
67.8	70.0	70.0	70.4	70.5	70.5	70.9	70.9	70.9	70.9	71.0	71.0	71.0	71.0	71.2	71.2
70.0	72.8	72.8	73.2	73.3	73.3	73.7	73.7	73.7	73.7	73.8	73.8	73.8	73.8	74.0	74.0
72.2	75.1	75.1	75.6	75.7	75.7	76.1	76.1	76.1	76.1	76.2	76.2	76.2	76.2	76.3	76.3
76.1	79.7	79.9	80.3	80.5	80.5	80.9	80.9	80.9	80.9	81.1	81.1	81.1	81.1	81.2	81.2
77.7	80.8	81.1	81.5	81.7	81.7	82.1	82.1	82.1	82.1	82.2	82.2	82.2	82.2	82.3	82.3
78.9	82.9	83.2	83.7	84.0	84.0	84.4	84.4	84.4	84.4	84.5	84.5	84.5	84.5	84.6	84.6
81.2	85.6	85.9	86.5	86.8	86.8	87.2	87.2	87.2	87.2	87.3	87.3	87.3	87.3	87.4	87.4
82.3	87.3	87.7	88.4	88.6	88.6	89.0	89.0	89.0	89.0	89.1	89.1	89.1	89.1	89.2	89.2
82.7	87.7	88.2	88.8	89.0	89.0	89.5	89.5	89.5	89.5	89.6	89.6	89.6	89.6	89.7	89.7
83.1	88.3	88.7	89.6	89.8	89.8	90.2	90.2	90.2	90.2	90.3	90.3	90.3	90.3	90.4	90.4
84.4	89.9	90.4	91.3	91.5	91.5	91.9	91.9	91.9	91.9	92.0	92.0	92.0	92.0	92.1	92.1
85.1	90.7	91.5	92.5	92.8	92.8	93.2	93.2	93.2	93.2	93.3	93.3	93.3	93.3	93.4	93.4
85.4	91.5	92.2	93.4	93.8	93.8	94.2	94.2	94.2	94.2	94.3	94.3	94.3	94.3	94.4	94.4
85.4	91.8	92.6	93.8	94.1	94.1	94.5	94.5	94.5	94.5	94.6	94.6	94.6	94.6	94.7	94.7
85.9	92.8	93.8	95.2	95.7	95.7	96.2	96.2	96.2	96.2	96.3	96.3	96.3	96.3	96.4	96.4
85.9	93.0	94.1	95.5	96.3	96.3	97.0	97.0	97.0	97.0	97.1	97.1	97.1	97.1	97.2	97.2
85.9	93.4	94.5	96.1	97.1	97.1	97.7	97.7	97.7	97.7	97.8	97.8	97.8	97.8	98.0	98.0
85.9	93.4	94.5	96.1	97.3	97.3	98.1	98.1	98.2	98.2	98.3	98.3	98.3	98.3	98.4	98.4
85.9	93.4	94.5	96.4	97.6	97.6	98.5	98.5	98.6	98.6	98.7	98.7	98.7	98.7	98.8	98.8
85.9	93.5	94.6	96.7	98.0	98.0	98.8	98.9	99.0	99.0	99.1	99.1	99.1	99.2	99.4	99.4
85.9	93.5	94.6	96.7	98.0	98.0	98.8	98.9	99.0	99.0	99.1	99.1	99.5	99.6	99.8	99.8
85.9	93.5	94.6	96.7	98.0	98.0	98.8	98.9	99.0	99.1	99.2	99.2	99.6	99.7	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 929

USAF ETAC 73-14-5 (01) ALL PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

00T

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-2000

48.3	49.5	50.1	50.3	50.5	50.5	50.6	51.0	51.0	51.3	51.4	51.4	51.7	51.7	51.8	51.8
52.3	53.9	54.6	54.8	55.1	55.1	55.2	55.5	55.5	55.8	55.9	55.9	56.2	56.2	56.3	56.3
52.3	53.9	54.6	54.8	55.1	55.1	55.2	55.5	55.5	55.8	55.9	55.9	56.2	56.2	56.3	56.3
52.4	54.0	54.7	54.9	55.2	55.2	55.3	55.6	55.6	55.9	56.0	56.0	56.3	56.3	56.5	56.5
52.8	54.4	55.2	55.4	55.6	55.6	55.7	56.0	56.0	56.3	56.5	56.5	56.8	56.8	56.9	56.9
55.1	56.9	57.6	58.0	58.2	58.2	58.3	58.6	58.6	58.9	59.0	59.0	59.4	59.4	59.5	59.5
60.1	62.2	63.3	63.3	63.5	63.5	63.7	64.0	64.0	64.4	64.5	64.5	64.8	64.8	64.9	64.9
60.2	62.3	63.1	63.4	63.7	63.7	63.8	64.1	64.1	64.5	64.6	64.6	64.9	64.9	65.1	65.1
62.7	64.7	65.6	65.9	66.1	66.1	66.2	66.6	66.6	67.0	67.1	67.1	67.4	67.4	67.5	67.5
64.2	66.3	67.2	67.5	67.7	67.7	67.8	68.2	68.2	68.6	68.7	68.7	69.0	69.0	69.1	69.1
65.3	67.4	68.3	68.6	68.8	68.8	68.9	69.2	69.2	69.7	69.8	69.8	70.2	70.2	70.3	70.3
66.9	69.2	70.1	70.4	70.6	70.6	70.8	71.1	71.1	71.5	71.6	71.6	72.0	72.0	72.2	72.2
68.4	70.8	71.6	71.9	72.2	72.2	72.3	72.6	72.6	73.0	73.1	73.1	73.5	73.5	73.7	73.7
71.5	74.2	75.1	75.5	75.7	75.7	75.8	76.1	76.1	76.6	76.7	76.7	77.1	77.1	77.2	77.2
72.3	75.4	76.2	76.7	76.9	76.9	77.0	77.3	77.3	77.7	77.8	77.8	78.3	78.3	78.4	78.4
75.6	79.0	79.9	80.4	80.6	80.6	80.8	81.1	81.1	81.5	81.6	81.6	82.0	82.0	82.2	82.2
77.3	81.1	82.0	82.6	82.9	82.9	83.1	83.4	83.4	83.9	84.0	84.0	84.4	84.4	84.5	84.5
78.9	83.4	84.4	84.9	85.5	85.5	85.7	86.0	86.0	86.5	86.6	86.6	87.0	87.0	87.1	87.1
79.4	83.9	84.8	85.4	86.1	86.1	86.3	86.7	86.7	87.1	87.2	87.2	87.6	87.6	87.7	87.7
79.8	84.6	85.6	86.2	87.0	87.1	87.5	87.8	87.8	88.3	88.4	88.4	88.8	88.8	88.9	88.9
81.8	87.2	88.2	88.9	89.7	89.8	90.2	90.5	90.5	91.0	91.1	91.1	91.5	91.5	91.6	91.6
82.5	88.2	89.1	90.0	90.8	91.0	91.4	91.7	91.7	92.2	92.3	92.3	92.7	92.7	92.8	92.8
82.9	89.0	90.0	91.0	91.9	92.2	92.6	93.0	93.1	93.4	93.5	93.5	94.0	94.0	94.1	94.1
83.2	89.9	90.9	91.8	92.9	93.1	93.5	94.0	94.0	94.4	94.5	94.5	94.9	94.9	95.1	95.1
83.2	90.0	91.0	92.0	93.1	93.3	93.9	94.3	94.3	94.7	94.8	94.8	95.3	95.3	95.4	95.4
83.2	90.5	91.6	92.9	94.0	94.3	95.1	95.5	95.5	95.9	96.0	96.0	96.6	96.6	96.7	96.7
83.2	90.8	91.9	93.5	94.8	95.2	96.1	96.7	96.7	97.2	97.3	97.3	97.8	97.8	98.0	98.0
83.2	91.1	92.3	93.9	95.4	95.8	97.2	97.8	98.0	98.5	98.7	98.7	99.2	99.2	99.4	99.4
83.2	91.1	92.3	93.9	95.4	95.8	97.2	97.8	98.1	98.7	98.9	98.9	99.5	99.5	99.6	99.6
83.2	91.1	92.3	93.9	95.4	95.8	97.2	97.8	98.1	98.7	98.9	98.9	99.5	99.5	99.6	99.6
83.2	91.1	92.3	93.9	95.4	95.8	97.2	97.8	98.1	98.7	98.9	98.9	99.6	99.6	99.9	99.9
83.2	91.1	92.3	93.9	95.4	95.8	97.2	97.8	98.1	98.7	99.0	99.0	99.7	99.7	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 10-14-5 OF A PRELIMINARY REPORT ARE ISSUED

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

05T

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0900-1100

44.5	45.6	46.1	46.5	46.6	46.6	46.7	47.0	47.1	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
51.3	52.8	53.2	53.7	53.8	53.8	53.9	54.2	54.3	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
51.3	53.0	53.4	53.9	54.0	54.0	54.1	54.4	54.5	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
51.6	53.3	53.8	54.2	54.3	54.3	54.4	54.7	54.8	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1
52.9	54.8	55.3	55.7	55.8	55.8	55.9	56.2	56.3	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6
54.8	57.1	57.5	58.0	58.1	58.1	58.2	58.5	58.6	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
58.3	61.1	61.5	61.9	62.0	62.0	62.2	62.5	62.6	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8
58.4	61.2	61.6	62.0	62.2	62.2	62.3	62.6	62.7	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9
62.2	65.1	65.5	65.9	66.0	66.0	66.1	66.5	66.6	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
63.4	66.5	66.9	67.3	67.4	67.4	67.5	67.8	68.0	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2
65.2	68.3	68.7	69.1	69.2	69.2	69.4	69.7	69.8	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66.6	70.0	70.4	70.9	71.0	71.0	71.1	71.4	71.5	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7
67.5	71.0	71.5	71.9	72.0	72.0	72.2	72.5	72.6	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
71.1	75.1	75.6	76.0	76.1	76.1	76.2	76.6	76.7	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9
71.8	75.9	76.5	76.9	77.0	77.2	77.4	77.7	77.8	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1
74.9	79.0	79.7	80.1	80.2	80.4	80.6	81.0	81.1	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3
76.3	80.9	81.6	82.0	82.2	82.4	82.6	82.9	83.0	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2
78.5	83.0	83.8	84.2	84.3	84.5	84.7	85.1	85.2	85.4	85.4	85.4	85.4	85.4	85.4	85.4	85.4
79.0	83.5	84.3	84.7	85.1	85.3	85.5	85.8	85.9	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1
79.6	84.6	85.7	86.1	86.6	86.8	87.1	87.4	87.5	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7
81.2	87.2	88.4	88.9	89.5	89.7	90.0	90.4	90.6	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9
82.3	88.9	90.1	90.8	91.7	91.9	92.3	92.8	93.0	93.3	93.3	93.3	93.3	93.3	93.3	93.3	93.3
82.4	89.6	90.9	91.6	92.7	92.9	93.3	93.9	94.1	94.4	94.4	94.4	94.4	94.4	94.4	94.4	94.4
82.8	90.2	91.6	92.5	93.5	93.8	94.2	94.8	95.2	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
82.8	90.6	92.4	93.2	94.4	94.6	95.1	95.8	96.1	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
82.9	91.0	92.8	93.9	95.2	95.4	95.8	96.7	97.0	97.3	97.3	97.3	97.4	97.4	97.4	97.4	97.4
82.9	91.0	92.9	94.2	95.5	95.8	96.6	97.4	97.8	98.3	98.3	98.3	98.4	98.4	98.4	98.4	98.4
82.9	91.0	92.9	94.2	95.7	96.0	96.9	97.8	98.4	99.1	99.1	99.1	99.4	99.4	99.4	99.4	99.4
82.9	91.0	92.9	94.2	95.7	96.0	97.2	98.2	98.7	99.5	99.5	99.5	99.7	99.7	99.7	99.7	99.7
82.9	91.0	92.9	94.2	95.7	96.0	97.2	98.2	98.7	99.5	99.5	99.5	99.8	99.8	99.8	99.8	99.8
82.9	91.0	92.9	94.2	95.7	96.0	97.2	98.2	98.7	99.6	99.6	99.6	99.9	99.9	99.9	99.9	99.9
82.9	91.0	92.9	94.2	95.7	96.0	97.2	98.2	98.7	99.6	99.6	99.6	99.9	99.9	99.9	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 930

0
2
GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

20T

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1200-1420

45.4	46.6	46.6	46.7	46.8	46.8	46.8	46.8	46.9	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
54.1	55.7	55.7	55.8	55.9	55.9	55.9	55.9	56.0	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2
54.7	56.3	56.3	56.5	56.6	56.6	56.6	56.6	56.7	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
54.8	56.5	56.5	56.6	56.7	56.7	56.7	56.7	56.8	57.0	57.0	57.0	57.0	57.0	57.0	57.0	57.0
56.0	57.8	57.8	58.0	58.1	58.1	58.1	58.1	58.2	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4
58.4	60.8	60.8	60.9	61.0	61.0	61.0	61.0	61.1	61.3	61.3	61.3	61.3	61.3	61.3	61.3	61.3
61.8	64.5	64.5	64.6	64.7	64.7	64.7	64.7	64.8	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
61.8	64.5	64.5	64.6	64.7	64.7	64.7	64.7	64.8	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
63.8	66.6	66.6	66.7	66.8	66.8	66.8	66.8	66.9	67.1	67.1	67.1	67.1	67.1	67.1	67.1	67.1
64.9	68.3	68.3	68.4	68.5	68.5	68.5	68.5	68.6	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
66.5	69.9	69.9	70.0	70.1	70.1	70.1	70.1	70.2	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4
67.8	71.3	71.3	71.4	71.5	71.5	71.5	71.5	71.6	71.8	71.8	71.8	71.8	71.8	71.8	71.8	71.8
68.3	71.9	71.9	72.0	72.2	72.2	72.2	72.2	72.3	72.5	72.5	72.5	72.5	72.5	72.5	72.5	72.5
71.5	75.4	75.5	75.6	75.7	75.7	75.7	75.7	75.8	76.0	76.0	76.0	76.0	76.0	76.0	76.0	76.0
72.6	76.5	76.6	76.7	76.8	77.1	77.1	77.1	77.2	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4
75.6	80.0	80.1	80.2	80.3	80.6	80.6	80.6	80.8	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0
78.3	82.8	82.9	83.0	83.2	83.5	83.5	83.5	83.7	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9
80.2	84.9	85.2	85.3	85.5	85.8	85.8	85.8	85.9	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1
80.5	85.4	85.6	85.7	85.9	86.2	86.2	86.2	86.3	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
82.5	88.1	88.6	88.8	89.0	89.4	89.4	89.4	89.5	89.7	89.7	89.7	89.7	89.7	89.7	89.7	89.7
84.4	90.4	91.2	91.5	91.8	92.2	92.3	92.3	92.4	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
84.6	91.8	92.7	93.1	93.4	93.8	94.3	94.3	94.4	94.6	94.6	94.6	94.6	94.6	94.6	94.6	94.6
85.3	92.7	93.9	94.3	94.9	95.4	95.9	96.0	96.1	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
85.5	93.1	94.3	94.7	95.5	96.0	96.8	97.0	97.1	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4
85.5	93.2	94.4	94.8	95.8	96.3	97.3	97.5	97.6	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
85.5	93.3	94.5	94.9	96.0	96.6	97.6	98.0	98.2	98.5	98.5	98.5	98.5	98.5	98.5	98.5	98.5
85.5	93.3	94.5	94.9	96.5	97.0	98.2	98.7	99.0	99.4	99.4	99.4	99.4	99.5	99.5	99.5	99.5
85.5	93.3	94.5	94.9	96.5	97.0	98.3	98.8	99.1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
85.5	93.3	94.5	94.9	96.5	97.0	98.3	98.8	99.1	99.7	99.7	99.7	99.7	100.0	100.0	100.0	100.0
85.5	93.3	94.5	94.9	96.5	97.0	98.3	98.8	99.1	99.7	99.7	99.7	99.7	100.0	100.0	100.0	100.0
85.5	93.3	94.5	94.9	96.5	97.0	98.3	98.8	99.1	99.7	99.7	99.7	99.7	100.0	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

25T

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1720

44.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.7	45.8	45.8	45.8	45.8	45.8	45.8
50.1	51.6	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.9	52.0	52.0	52.0	52.0	52.0	52.0
51.5	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.3	53.4	53.4	53.4	53.4	53.4	53.4	53.4
51.8	53.3	53.4	53.4	53.4	53.4	53.4	53.4	53.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8
53.7	55.6	55.7	55.7	55.7	55.7	55.7	55.7	55.9	56.0	56.0	56.0	56.0	56.0	56.0	56.0
56.5	58.8	58.9	58.9	58.9	58.9	58.9	58.9	59.1	59.2	59.2	59.2	59.2	59.2	59.2	59.2
61.3	63.9	64.1	64.1	64.1	64.1	64.1	64.1	64.3	64.4	64.4	64.4	64.4	64.4	64.4	64.4
61.8	64.4	64.6	64.6	64.6	64.6	64.6	64.6	64.8	64.9	64.9	64.9	64.9	64.9	64.9	64.9
65.1	67.6	67.8	67.8	67.8	67.8	67.8	67.8	68.1	68.2	68.2	68.2	68.2	68.2	68.2	68.2
65.7	68.6	68.8	68.8	68.8	68.8	68.8	68.8	69.0	69.1	69.1	69.1	69.1	69.1	69.1	69.1
66.6	69.5	69.7	69.7	69.7	69.7	69.7	69.7	69.9	70.0	70.0	70.0	70.0	70.0	70.0	70.0
69.1	72.3	72.5	72.5	72.6	72.6	72.6	72.6	72.8	72.9	72.9	72.9	72.9	72.9	72.9	72.9
69.4	72.7	72.9	72.9	73.0	73.0	73.0	73.0	73.2	73.3	73.3	73.3	73.3	73.3	73.3	73.3
74.1	77.5	78.0	78.2	78.3	78.3	78.3	78.3	78.5	78.6	78.6	78.6	78.6	78.6	78.6	78.6
75.7	79.1	79.6	79.8	80.0	80.0	80.0	80.0	80.2	80.3	80.3	80.3	80.3	80.3	80.3	80.3
77.7	81.4	81.8	82.0	82.4	82.4	82.4	82.4	82.6	82.7	82.7	82.7	82.7	82.7	82.7	82.7
80.9	85.2	85.6	85.8	86.1	86.1	86.1	86.1	86.3	86.5	86.5	86.5	86.5	86.5	86.5	86.5
82.7	87.5	88.1	88.3	88.6	88.9	88.9	88.9	89.1	89.2	89.2	89.2	89.2	89.2	89.2	89.2
83.2	88.2	88.7	89.0	89.4	89.7	89.7	89.7	89.9	90.0	90.0	90.0	90.0	90.0	90.0	90.0
84.6	90.6	91.3	91.8	92.3	92.6	92.7	92.7	92.9	93.0	93.0	93.0	93.0	93.0	93.0	93.0
85.7	92.4	93.3	93.9	94.5	94.8	94.9	94.9	95.2	95.3	95.3	95.3	95.3	95.3	95.3	95.3
85.8	92.6	93.5	94.4	95.1	95.5	95.8	95.8	96.0	96.1	96.1	96.1	96.1	96.1	96.1	96.1
85.8	92.7	93.8	94.6	95.3	95.7	96.0	96.0	96.2	96.5	96.5	96.5	96.5	96.5	96.5	96.5
85.8	93.1	94.2	95.2	95.9	96.3	96.8	96.8	97.0	97.2	97.2	97.2	97.2	97.2	97.2	97.2
85.8	93.1	94.2	95.3	96.2	96.7	97.3	97.4	97.6	97.8	97.8	97.8	97.8	97.8	97.8	97.8
85.8	93.1	94.2	95.3	96.7	97.2	98.1	98.2	98.4	98.6	98.6	98.6	98.6	98.6	98.6	98.6
85.8	93.1	94.3	95.4	96.8	97.3	98.3	98.7	98.9	99.5	99.5	99.5	99.6	99.6	99.6	99.6
85.8	93.1	94.3	95.4	96.8	97.4	98.6	99.1	99.4	99.9	99.9	99.9	99.9	99.9	99.9	99.9
85.8	93.1	94.3	95.4	96.8	97.4	98.6	99.1	99.4	99.9	99.9	99.9	99.9	99.9	99.9	99.9
85.8	93.1	94.3	95.4	96.8	97.4	98.6	99.1	99.4	99.9	99.9	99.9	99.9	99.9	99.9	99.9
85.8	93.1	94.3	95.4	96.8	97.4	98.6	99.1	99.4	99.9	99.9	99.9	99.9	99.9	99.9	99.9

TOTAL NUMBER OF OBSERVATIONS 930

CEILING VERSUS VISIBILITY

73-82

251

1800-2000

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIP WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORMS AFB ND

73-82

001

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

IN BOTH STATUTE MILES																
CEILING	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1000	48.3	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
900	54.2	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
800	54.5	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8	54.8
700	54.6	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2
600	56.1	56.7	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8
500	56.6	59.2	59.2	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4	59.4
400	63.5	64.2	64.2	64.3	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
300	64.6	65.7	65.7	65.8	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0
200	66.8	67.8	67.8	68.0	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2	68.2
100	68.3	69.4	69.4	69.5	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7	69.7
50	69.6	70.6	70.6	70.8	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
0	72.6	73.7	73.7	73.8	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0
1000	73.5	74.6	74.6	74.7	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9	74.9
900	79.2	80.4	80.5	80.9	81.1	81.2	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3
800	80.1	81.4	81.5	81.8	82.0	82.2	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
700	81.4	82.9	83.7	83.4	83.7	83.8	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9
600	84.1	87.1	87.2	87.8	88.1	88.2	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3	88.3
500	85.2	88.8	88.9	89.4	89.9	90.0	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1	90.1
400	85.8	89.8	89.7	90.3	90.6	90.8	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9	90.9
300	86.5	90.5	90.6	91.3	91.7	91.8	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9
200	86.7	91.7	91.8	92.5	93.1	93.2	93.3	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4
100	86.9	92.2	92.3	93.4	94.4	94.5	94.6	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8	94.8
50	87.0	92.6	92.9	94.1	95.1	95.2	95.3	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5	95.5
0	87.3	92.6	92.9	94.1	95.2	95.3	95.5	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7	95.7
1000	87.2	92.9	93.4	94.7	95.9	96.0	96.2	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6	96.6
900	87.3	93.1	93.7	95.3	96.7	96.9	97.2	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7	97.7
800	87.3	93.1	93.8	95.4	96.8	97.0	97.4	98.2	98.2	98.3	98.3	98.3	98.3	98.3	98.3	98.3
700	87.4	93.3	94.0	95.6	97.0	97.2	97.7	98.8	98.8	99.0	99.0	99.0	99.0	99.0	99.0	99.0
600	87.4	93.3	94.0	95.6	97.0	97.2	97.8	98.9	98.9	99.1	99.1	99.1	99.1	99.1	99.1	99.1
500	87.4	93.3	94.1	95.7	97.1	97.3	98.2	99.2	99.4	99.6	99.6	99.6	99.6	99.6	99.6	99.6
400	87.4	93.3	94.1	95.7	97.1	97.3	98.2	99.2	99.5	99.7	99.7	99.7	99.7	99.7	99.7	99.7
300	87.4	93.3	94.1	95.7	97.1	97.3	98.2	99.2	99.5	99.7	99.7	99.7	99.7	99.7	99.7	99.7

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

001

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS.

ALL

48.3	49.2	49.4	49.5	49.6	49.6	49.6	49.7	49.8	49.9	49.9	49.9	50.0	50.0	50.0	50.0	50.0
53.5	54.7	54.8	55.0	55.0	55.0	55.1	55.2	55.3	55.4	55.4	55.4	55.4	55.4	55.5	55.5	55.5
53.9	55.0	55.2	55.3	55.4	55.4	55.5	55.6	55.6	55.7	55.7	55.7	55.8	55.8	55.8	55.8	55.8
54.7	55.2	55.4	55.5	55.6	55.6	55.7	55.8	55.8	55.9	56.0	56.0	56.0	56.0	56.0	56.0	56.0
55.3	56.6	56.8	56.9	57.0	57.0	57.1	57.2	57.2	57.3	57.4	57.4	57.4	57.4	57.5	57.5	57.5
57.6	59.2	59.3	59.5	59.6	59.6	59.7	59.7	59.8	59.9	59.9	59.9	60.0	60.0	60.0	60.0	60.0
62.0	63.8	64.0	64.2	64.3	64.3	64.4	64.4	64.5	64.6	64.6	64.6	64.7	64.7	64.7	64.7	64.7
62.5	64.4	64.6	64.8	64.9	64.9	65.0	65.0	65.1	65.2	65.2	65.2	65.3	65.3	65.3	65.3	65.3
65.0	67.0	67.2	67.3	67.5	67.5	67.5	67.6	67.7	67.8	67.8	67.8	67.9	67.9	67.9	67.9	67.9
66.4	68.6	68.8	69.0	69.1	69.1	69.1	69.2	69.3	69.4	69.4	69.4	69.5	69.5	69.5	69.5	69.5
67.6	69.9	70.1	70.3	70.4	70.4	70.5	70.6	70.6	70.7	70.8	70.8	70.8	70.8	70.9	70.9	70.9
69.9	72.3	72.5	72.8	72.9	72.9	73.0	73.0	73.1	73.2	73.2	73.2	73.3	73.3	73.4	73.4	73.4
71.0	73.5	73.7	73.9	74.1	74.1	74.1	74.2	74.3	74.4	74.4	74.4	74.5	74.5	74.5	74.5	74.5
75.1	77.9	78.2	78.5	78.6	78.7	78.7	78.8	78.9	79.0	79.0	79.0	79.1	79.1	79.2	79.2	79.2
76.0	79.0	79.3	79.6	79.8	79.8	80.0	80.1	80.1	80.2	80.3	80.3	80.3	80.3	80.4	80.4	80.4
78.2	81.4	81.7	82.1	82.3	82.4	82.5	82.6	82.6	82.8	82.8	82.8	82.8	82.8	82.9	82.9	82.9
80.7	84.5	84.9	85.3	85.5	85.6	85.7	85.8	85.9	86.0	86.0	86.0	86.1	86.1	86.1	86.1	86.1
82.3	86.6	87.1	87.5	87.8	87.9	88.0	88.1	88.2	88.3	88.3	88.3	88.4	88.4	88.5	88.5	88.5
82.7	87.1	87.6	88.0	88.3	88.5	88.6	88.7	88.7	88.9	88.9	88.9	89.0	89.0	89.0	89.0	89.0
83.6	88.4	89.0	89.6	89.9	90.1	90.1	90.1	90.4	90.4	90.5	90.6	90.6	90.6	90.7	90.7	90.7
84.7	90.3	91.0	91.7	92.1	92.3	92.5	92.6	92.7	92.8	92.9	92.9	92.9	92.9	93.0	93.0	93.0
85.1	91.1	91.9	92.8	93.4	93.6	93.9	94.1	94.1	94.3	94.3	94.3	94.4	94.4	94.4	94.4	94.4
85.3	91.6	92.5	93.5	94.2	94.4	94.7	94.9	95.0	95.1	95.2	95.2	95.2	95.2	95.3	95.3	95.3
85.4	92.0	92.9	93.9	94.6	94.9	95.3	95.5	95.6	95.7	95.8	95.8	95.8	95.8	95.9	95.9	95.9
85.5	92.3	93.3	94.4	95.4	95.6	96.1	96.4	96.5	96.7	96.7	96.7	96.7	96.8	96.8	96.8	96.8
85.5	92.6	93.7	94.9	96.0	96.3	96.9	97.3	97.4	97.5	97.6	97.6	97.6	97.6	97.7	97.7	97.7
85.6	92.7	93.9	95.2	96.5	96.8	97.6	98.1	98.2	98.5	98.5	98.5	98.6	98.6	98.7	98.7	98.7
85.6	92.8	94.0	95.3	96.7	97.0	98.0	98.5	98.7	99.0	99.1	99.1	99.2	99.2	99.3	99.3	99.3
85.6	92.8	94.0	95.4	96.8	97.1	98.2	98.7	98.9	99.3	99.3	99.3	99.5	99.5	99.5	99.5	99.5
85.6	92.8	94.0	95.4	96.8	97.2	98.3	98.9	99.1	99.5	99.5	99.5	99.7	99.7	99.7	99.7	99.7
85.6	92.8	94.0	95.4	96.8	97.2	98.3	98.9	99.1	99.5	99.5	99.5	99.8	99.8	99.9	99.9	99.9
85.6	92.8	94.0	95.4	96.8	97.2	98.3	98.9	99.1	99.5	99.5	99.5	99.8	99.9	100.0	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 7439

USAF ETAC 14-5 01 A PREVIOUS EDITIONS ARE OBSOLETE

1
2

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

MOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-0200

47.3	48.8	49.7	49.3	49.8	49.8	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
49.6	51.3	51.6	51.9	52.3	52.3	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
49.6	51.3	51.6	51.9	52.3	52.3	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
49.6	51.3	51.6	51.9	52.3	52.3	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
49.7	51.4	51.7	52.0	52.4	52.4	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7
51.3	53.1	53.3	53.7	54.1	54.1	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
55.3	57.2	57.4	57.8	58.2	58.2	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4
55.7	57.6	57.8	58.1	58.6	58.6	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8
57.4	59.4	59.8	60.1	61.0	61.0	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2	61.2
58.1	60.3	60.7	61.0	61.9	61.9	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2	62.2
58.9	61.2	61.6	61.9	62.8	62.8	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
61.8	64.4	64.8	65.1	66.0	66.0	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
62.4	65.1	65.4	65.8	66.7	66.7	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0
64.9	68.1	68.4	69.0	70.1	70.1	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4	70.4
65.8	69.0	69.3	69.9	71.0	71.0	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
66.7	71.9	72.2	72.8	74.0	74.1	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4
71.1	74.3	74.9	75.4	76.7	76.9	77.2	77.3	77.3	77.6	77.6	77.6	77.6	77.6	77.6	77.6
74.8	78.2	78.9	79.8	81.0	81.2	81.8	81.9	81.9	82.1	82.1	82.1	82.1	82.1	82.1	82.1
75.1	78.7	79.3	80.3	81.7	81.9	82.4	82.6	82.6	82.8	82.8	82.8	82.8	82.8	82.8	82.8
77.1	81.2	82.1	83.1	84.7	85.0	85.7	86.0	86.0	86.2	86.2	86.2	86.2	86.2	86.2	86.2
77.9	82.3	83.2	84.3	85.9	86.3	87.0	87.3	87.4	87.7	87.7	87.7	87.7	87.7	87.7	87.7
78.8	83.6	84.6	85.8	87.3	87.8	88.6	89.1	89.3	89.7	89.7	89.7	90.0	90.0	90.0	90.0
79.1	84.0	85.1	86.3	88.1	88.8	89.7	90.2	90.6	91.1	91.1	91.1	91.4	91.4	91.4	91.4
79.2	84.1	85.3	86.6	88.3	89.2	90.4	91.1	91.7	92.2	92.2	92.2	92.6	92.6	92.6	92.6
79.2	84.4	85.7	86.9	88.9	89.9	91.1	91.8	92.3	92.9	92.9	92.9	93.2	93.2	93.2	93.2
79.2	84.9	86.2	87.6	89.7	90.7	92.3	93.0	93.6	94.3	94.3	94.3	94.7	94.7	94.7	94.7
79.6	85.3	86.7	88.1	90.3	91.3	93.2	94.2	94.8	95.7	95.7	95.7	96.0	96.0	96.0	96.0
79.6	85.4	87.6	89.2	92.1	93.1	95.3	96.4	97.0	98.1	98.1	98.1	98.7	98.7	98.7	98.7
79.6	85.4	87.6	89.2	92.3	93.3	95.6	96.7	97.2	98.7	98.7	98.7	99.2	99.2	99.2	99.2
79.7	85.6	87.7	89.3	92.4	93.4	95.8	96.9	97.4	98.9	99.0	99.0	99.6	99.6	99.6	99.6
79.7	85.6	87.7	89.3	92.4	93.4	95.8	96.9	97.4	98.9	99.0	99.0	99.6	99.6	99.8	100.0
79.7	85.6	87.7	89.3	92.4	93.4	95.8	96.9	97.4	98.9	99.0	99.0	99.6	99.6	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 0-14-5 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0300-2500

47.2	47.9	48.2	48.3	48.6	48.6	49.0	49.1	49.1	49.4	49.4	49.4	49.4	49.4	49.4	49.4
50.1	51.0	51.3	51.4	51.7	51.7	52.1	52.2	52.2	52.6	52.6	52.6	52.6	52.6	52.6	52.6
57.1	51.0	51.3	51.4	51.7	51.7	52.1	52.2	52.2	52.6	52.6	52.6	52.6	52.6	52.6	52.6
50.1	51.0	51.3	51.4	51.7	51.7	52.1	52.2	52.2	52.6	52.6	52.6	52.6	52.6	52.6	52.6
50.1	51.0	51.3	51.4	51.7	51.7	52.1	52.2	52.2	52.6	52.6	52.6	52.6	52.6	52.6	52.6
52.0	52.9	53.2	53.3	53.6	53.6	54.0	54.1	54.1	54.4	54.4	54.4	54.4	54.4	54.4	54.4
54.6	55.6	55.9	56.0	56.2	56.2	56.7	56.8	56.8	57.1	57.1	57.1	57.1	57.1	57.1	57.1
54.6	55.6	55.9	56.0	56.2	56.2	56.7	56.8	56.8	57.1	57.1	57.1	57.1	57.1	57.1	57.1
55.9	57.2	57.8	57.9	58.2	58.2	58.8	58.9	58.9	59.2	59.2	59.2	59.2	59.2	59.2	59.2
56.3	58.0	58.6	58.7	59.0	59.0	59.6	59.7	59.7	60.0	60.0	60.0	60.0	60.0	60.0	60.0
57.1	59.0	59.6	59.7	60.0	60.0	60.6	60.7	60.7	61.0	61.0	61.0	61.0	61.0	61.0	61.0
59.2	61.3	62.1	62.2	62.6	62.6	63.1	63.2	63.2	63.6	63.6	63.6	63.6	63.6	63.6	63.6
59.9	62.0	62.8	62.9	63.2	63.2	63.8	63.9	63.9	64.2	64.2	64.2	64.2	64.2	64.2	64.2
62.1	64.8	65.6	65.7	66.1	66.1	66.7	66.8	66.8	67.1	67.1	67.1	67.1	67.1	67.1	67.1
63.9	66.6	67.3	67.4	67.9	67.9	68.4	68.6	68.6	68.9	68.9	68.9	68.9	68.9	68.9	68.9
66.4	69.2	70.1	70.2	71.0	71.0	71.6	71.7	71.7	72.0	72.0	72.0	72.0	72.0	72.0	72.0
68.7	72.1	73.2	73.3	74.2	74.2	75.1	75.2	75.2	75.9	75.9	75.9	75.9	75.9	75.9	75.9
72.2	76.3	77.7	77.8	78.8	78.8	79.8	80.0	80.0	80.7	80.8	80.8	80.8	80.8	80.8	80.8
73.0	77.2	79.6	78.7	79.7	79.7	80.7	80.9	80.9	81.6	81.7	81.7	81.7	81.7	81.7	81.7
74.9	79.8	81.3	81.4	83.0	83.0	84.1	84.3	84.3	85.2	85.3	85.3	85.3	85.3	85.3	85.3
75.7	81.1	82.7	82.9	84.4	84.6	85.7	85.9	85.9	86.8	86.9	86.9	86.9	86.9	86.9	86.9
76.6	82.4	84.1	84.8	86.3	86.4	87.6	87.9	87.9	88.8	88.9	88.9	88.9	88.9	88.9	88.9
77.1	83.3	85.4	86.1	87.7	87.9	89.1	89.6	89.6	90.7	90.8	90.8	90.8	90.8	90.8	90.8
77.1	83.3	85.6	86.6	88.2	88.4	89.9	90.7	90.7	91.9	92.0	92.0	92.0	92.0	92.0	92.0
77.6	83.8	86.1	87.1	88.8	89.0	90.7	91.9	91.9	93.1	93.2	93.2	93.2	93.2	93.2	93.2
77.7	83.9	86.2	87.2	89.1	89.4	91.2	92.4	92.4	93.9	94.1	94.1	94.1	94.1	94.1	94.1
78.0	84.3	86.8	87.8	89.8	90.2	92.3	93.8	94.1	95.7	95.9	95.9	95.9	95.9	95.9	95.9
78.0	84.4	87.1	88.7	91.1	91.6	93.9	95.7	96.1	97.7	98.0	98.0	98.0	98.0	98.0	98.0
78.0	84.4	87.1	88.7	91.1	91.6	93.9	95.8	96.2	98.4	98.9	98.9	98.9	98.9	98.9	98.9
78.0	84.4	87.1	88.7	91.1	91.6	93.9	95.8	96.2	98.7	99.1	99.2	99.4	99.6	99.6	99.6
78.1	84.4	87.1	88.7	91.1	91.6	93.9	95.8	96.2	98.8	99.2	99.3	99.6	99.7	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-2822

42.1	44.1	44.8	45.1	45.8	45.8	46.0	46.2	46.2	46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3
45.4	48.7	49.3	49.7	50.3	50.3	50.6	50.8	50.8	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9
46.6	46.8	49.4	49.8	50.4	50.4	50.7	50.9	50.9	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
46.6	46.8	49.4	49.8	50.4	50.4	50.7	50.9	50.9	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
46.7	48.9	49.6	49.9	50.6	50.6	50.8	51.0	51.0	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1
47.9	50.1	50.8	51.1	51.8	51.8	52.0	52.2	52.2	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3
50.9	53.6	54.2	54.6	55.2	55.2	55.4	55.7	55.7	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8
51.0	53.7	54.4	54.8	55.4	55.4	55.7	55.9	55.9	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
53.3	56.2	57.1	57.4	58.1	58.1	58.3	58.6	58.6	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7
54.3	57.4	58.3	58.8	59.7	59.7	59.9	60.1	60.1	60.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2
54.7	57.8	58.7	59.1	60.0	60.0	60.2	60.4	60.4	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
57.2	60.7	61.6	62.0	63.1	63.1	63.4	63.7	63.7	63.8	63.8	63.8	63.8	63.8	63.8	63.8	63.8
57.9	61.3	62.2	62.7	63.8	63.8	64.1	64.3	64.3	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4
59.7	63.3	64.2	64.7	65.8	65.8	66.1	66.3	66.3	66.4	66.4	66.4	66.4	66.6	66.6	66.6	66.6
60.4	64.1	65.0	65.4	66.6	66.6	66.9	67.1	67.1	67.2	67.2	67.2	67.3	67.3	67.3	67.3	67.3
62.2	66.6	67.7	68.1	69.2	69.2	69.6	69.8	69.8	69.9	69.9	69.9	70.0	70.0	70.0	70.0	70.0
63.8	68.7	69.9	70.4	71.6	71.6	72.3	72.6	72.6	72.7	72.7	72.7	72.8	72.8	72.8	72.8	72.8
68.1	74.1	75.4	76.2	77.4	77.4	78.2	78.4	78.4	78.6	78.6	78.6	78.7	78.7	78.7	78.7	78.7
69.1	75.3	76.7	77.4	78.7	78.7	79.4	79.7	79.7	79.8	79.8	79.8	79.9	79.9	79.9	79.9	79.9
71.6	78.7	80.0	81.1	82.6	82.6	83.3	83.6	83.6	84.0	84.0	84.0	84.1	84.1	84.1	84.1	84.1
72.9	80.2	81.6	82.8	84.4	84.4	85.3	85.6	85.6	86.0	86.0	86.0	86.1	86.1	86.1	86.1	86.1
73.0	80.9	82.3	83.6	85.2	85.2	86.1	86.3	86.3	86.8	86.9	86.9	87.0	87.0	87.0	87.0	87.0
73.7	82.2	83.7	85.1	87.2	87.4	88.3	88.6	88.6	89.3	89.4	89.4	89.6	89.6	89.6	89.6	89.6
73.7	82.2	83.9	85.6	87.7	87.9	88.9	89.2	89.2	90.3	90.7	90.7	90.8	90.8	90.8	90.8	90.8
74.1	82.9	84.6	86.3	88.4	88.8	90.0	90.9	91.0	92.1	92.4	92.4	92.7	92.7	92.7	92.7	92.7
74.4	83.3	85.1	87.0	89.1	89.4	90.7	91.6	91.7	92.9	93.2	93.2	93.4	93.4	93.4	93.4	93.4
74.7	83.7	85.3	87.4	89.7	90.1	91.3	92.4	92.8	94.3	94.8	95.0	95.2	95.2	95.2	95.2	95.2
74.7	84.0	86.1	88.6	91.2	91.7	93.3	94.7	95.0	96.7	97.4	97.7	97.9	97.9	97.9	97.9	97.9
74.7	84.0	86.1	88.6	91.2	91.7	93.4	95.0	95.3	97.1	98.0	98.3	98.6	98.6	98.6	98.6	98.6
74.7	84.0	86.1	88.6	91.2	91.7	93.4	95.3	95.7	97.6	98.4	98.8	99.0	99.1	99.2	99.4	99.4
74.7	84.0	86.1	88.6	91.2	91.7	93.4	95.3	95.7	97.8	98.7	99.0	99.2	99.4	99.7	100.0	100.0
74.7	84.0	86.1	88.6	91.2	91.7	93.4	95.3	95.7	97.8	98.7	99.0	99.2	99.4	99.7	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0900-1100

38.9	42.0	42.6	42.8	43.4	43.4	43.6	43.6	43.6	43.7	43.7	43.7	43.7	43.7	43.7	43.7
44.3	47.3	47.2	48.3	48.9	48.9	49.2	49.3	49.3	49.4	49.4	49.4	49.4	49.4	49.4	49.4
44.5	47.7	48.4	48.7	49.4	49.4	49.6	49.7	49.7	49.8	49.8	49.8	49.8	49.8	49.8	49.8
44.7	47.9	48.6	48.9	49.6	49.6	49.8	49.9	49.9	50.1	50.1	50.1	50.1	50.1	50.1	50.1
45.4	48.7	49.4	49.7	50.4	50.4	50.6	50.7	50.7	50.8	50.8	50.8	50.8	50.8	50.8	50.8
47.6	50.9	51.6	51.9	52.6	52.6	52.8	52.9	52.9	53.1	53.1	53.1	53.1	53.1	53.1	53.1
50.7	54.5	55.2	55.5	56.3	56.3	56.5	56.7	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8
51.1	54.9	55.6	56.0	56.7	56.7	57.1	57.2	57.2	57.3	57.3	57.3	57.3	57.3	57.3	57.3
53.8	57.8	58.7	59.3	60.4	60.4	60.6	60.8	60.8	61.0	61.0	61.0	61.0	61.0	61.0	61.0
54.4	58.6	59.5	60.1	61.2	61.2	61.4	61.6	61.6	61.7	61.7	61.7	61.7	61.7	61.7	61.7
54.6	58.8	59.7	60.3	61.4	61.4	61.7	62.0	62.0	62.1	62.1	62.1	62.1	62.1	62.1	62.1
56.5	61.1	62.0	62.5	63.6	63.6	64.0	64.2	64.2	64.4	64.4	64.4	64.4	64.4	64.4	64.4
57.5	62.2	63.1	63.6	64.7	64.7	65.1	65.3	65.3	65.5	65.5	65.5	65.5	65.5	65.5	65.5
59.1	64.0	64.8	65.4	66.5	66.5	66.9	67.1	67.1	67.4	67.4	67.4	67.4	67.4	67.4	67.4
59.7	64.8	65.7	66.3	67.4	67.4	67.7	68.0	68.0	68.3	68.3	68.3	68.3	68.3	68.3	68.3
61.5	66.9	67.7	68.3	69.6	69.7	70.1	70.3	70.3	70.6	70.6	70.6	70.6	70.6	70.6	70.6
63.1	68.6	69.5	70.6	72.1	72.2	72.7	73.0	73.0	73.3	73.3	73.3	73.3	73.3	73.3	73.3
66.2	72.3	73.4	74.6	76.1	76.4	77.1	77.4	77.4	77.8	78.0	78.1	78.1	78.1	78.1	78.1
67.0	73.1	74.2	75.5	77.0	77.3	78.0	78.3	78.3	78.6	78.9	79.0	79.0	79.0	79.0	79.0
68.3	75.2	76.5	78.0	79.6	80.0	80.8	81.1	81.1	81.5	82.0	82.1	82.1	82.1	82.1	82.1
70.4	78.3	80.0	81.8	83.5	83.9	84.6	85.0	85.1	85.8	86.2	86.3	86.3	86.3	86.3	86.3
71.1	79.2	81.1	83.3	85.2	85.5	86.3	86.7	86.9	87.7	88.1	88.3	88.3	88.3	88.3	88.3
72.0	81.0	82.9	85.1	87.3	87.8	88.8	89.1	89.3	90.1	90.5	90.8	90.8	90.8	90.8	90.8
72.5	81.6	83.5	85.8	88.2	88.7	89.9	90.2	90.4	91.2	91.7	91.9	91.9	91.9	91.9	91.9
72.5	81.8	83.6	86.0	88.4	88.9	90.1	90.5	90.9	91.7	92.1	92.3	92.4	92.4	92.5	92.5
72.5	82.0	83.9	86.3	88.9	89.3	90.7	91.1	91.4	92.3	92.8	93.0	93.2	93.2	93.3	93.3
72.5	82.2	84.1	86.5	89.2	89.8	91.3	91.8	92.3	93.3	94.1	94.4	94.7	95.1	95.2	95.2
72.5	82.3	84.3	86.8	89.7	90.4	92.7	93.2	93.8	95.0	96.0	96.4	96.8	97.2	97.4	97.4
72.5	82.3	84.3	86.8	89.7	90.4	92.8	93.7	94.3	96.1	97.3	97.8	98.4	98.9	99.1	99.4
72.5	82.3	84.3	86.8	89.7	90.4	92.9	93.8	94.4	96.2	97.6	98.0	99.0	99.4	99.7	100.0
72.5	82.3	84.3	86.8	89.7	90.4	92.9	93.8	94.4	96.2	97.6	98.0	99.0	99.4	99.7	100.0
72.5	82.3	84.3	86.8	89.7	90.4	92.9	93.8	94.4	96.2	97.6	98.0	99.0	99.4	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 899

USAF ETAC 14-45 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1200-1400

40.1	43.3	43.9	44.6	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.9	44.9	45.0	45.0
46.4	50.1	50.7	51.4	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.8	51.8	52.0	52.0
47.3	51.0	51.6	52.3	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.7	52.7	52.9	52.9
47.4	51.1	51.7	52.4	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.8	52.8	53.0	53.0
48.6	52.2	52.8	53.6	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.9	53.9	54.1	54.1
50.0	53.7	54.2	55.0	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.2	55.3	55.3	55.6	55.6
51.6	55.4	56.1	56.9	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.2	57.2	57.4	57.4
52.7	56.6	57.2	58.0	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.3	58.3	58.6	58.6
55.9	60.4	61.2	62.1	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.4	62.4	62.7	62.7
56.6	61.1	61.9	62.8	63.0	63.1	63.1	63.1	63.2	63.2	63.2	63.2	63.2	63.3	63.3	63.6	63.6
56.7	61.6	62.3	63.2	63.6	63.7	63.7	63.7	63.8	63.8	63.8	63.8	63.8	63.9	63.9	64.1	64.1
57.8	62.9	63.7	64.6	64.9	65.0	65.0	65.0	65.1	65.1	65.1	65.1	65.1	65.2	65.2	65.4	65.4
58.4	63.6	64.3	65.2	65.6	65.7	65.7	65.7	65.8	65.8	65.8	65.8	65.8	65.9	65.9	66.1	66.1
59.7	65.4	66.2	67.1	67.4	67.6	67.9	68.0	68.1	68.3	68.3	68.3	68.3	68.4	68.4	68.7	68.7
60.6	66.8	67.6	68.4	68.8	68.9	69.2	69.3	69.4	69.7	69.7	69.7	69.7	69.8	69.8	70.0	70.0
62.3	69.1	70.7	71.0	71.3	71.4	71.8	72.1	72.1	72.3	72.3	72.3	72.3	72.4	72.4	72.7	72.7
65.1	72.6	73.7	74.8	75.1	75.2	75.6	75.8	75.9	76.1	76.1	76.1	76.1	76.2	76.2	76.4	76.4
67.3	75.4	76.9	78.1	78.4	78.6	79.4	79.7	79.8	80.0	80.0	80.0	80.0	80.1	80.1	80.3	80.3
67.8	76.0	77.6	78.8	79.1	79.2	80.2	80.4	80.6	80.8	80.8	80.8	80.8	80.9	80.9	81.1	81.1
69.3	78.2	80.0	81.3	82.1	82.2	83.2	83.4	83.6	83.8	83.8	83.8	83.8	83.9	83.9	84.1	84.1
70.9	81.8	84.0	85.7	86.6	86.8	88.1	88.6	88.7	89.0	89.0	89.0	89.0	89.1	89.1	89.3	89.3
71.3	82.8	85.2	87.1	88.1	88.3	89.7	90.2	90.4	90.9	90.9	90.9	90.9	91.0	91.0	91.2	91.2
71.7	83.6	86.0	88.1	89.6	89.9	91.3	91.9	92.1	92.6	92.6	92.6	92.6	92.7	92.7	92.9	92.9
72.1	84.1	86.7	88.8	90.2	90.7	92.1	92.8	93.0	93.4	93.7	93.7	93.7	93.8	93.8	94.0	94.0
72.3	84.4	87.1	89.3	90.9	91.3	93.2	93.9	94.1	94.6	94.8	94.8	94.8	95.0	95.0	95.2	95.2
72.6	84.7	87.3	89.6	91.1	91.6	93.4	94.2	94.4	94.9	95.1	95.1	95.1	95.3	95.3	95.6	95.6
72.6	84.8	87.4	89.9	91.4	92.0	94.2	95.0	95.2	95.9	96.3	96.3	96.3	96.6	96.9	97.1	97.1
72.6	84.8	87.6	90.0	91.7	92.4	94.7	95.7	95.9	96.7	97.1	97.1	97.1	97.6	97.9	98.1	98.1
72.6	84.8	87.6	90.0	91.7	92.6	95.0	96.1	96.3	97.6	98.1	98.1	98.1	98.6	98.9	99.3	99.4
72.6	84.8	87.6	90.0	91.7	92.6	95.0	96.1	96.3	97.6	98.2	98.2	98.2	98.9	99.2	99.7	99.8
72.6	84.8	87.6	90.0	91.7	92.6	95.0	96.1	96.3	97.6	98.2	98.2	98.2	98.9	99.2	99.7	99.9
72.6	84.8	87.6	90.0	91.7	92.6	95.0	96.1	96.3	97.6	98.2	98.2	98.2	98.9	99.2	99.8	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-62

MOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1500-1700

40.3	43.6	44.2	44.6	44.7	44.8	44.8	44.9	44.7	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
47.1	50.8	51.4	51.8	51.9	52.3	52.0	52.1	52.1	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2
47.6	51.2	51.9	52.2	52.3	52.4	52.4	52.6	52.6	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7
47.7	51.3	52.0	52.3	52.4	52.6	52.6	52.7	52.7	52.8	52.8	52.8	52.8	52.8	52.8	52.8	52.8
48.9	52.8	53.4	53.8	53.9	54.0	54.0	54.1	54.1	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2
51.1	55.3	56.1	56.3	56.4	56.6	56.6	56.7	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8
53.8	58.2	58.9	59.2	59.3	59.4	59.4	59.6	59.6	59.7	59.7	59.7	59.7	59.7	59.7	59.7	59.7
54.4	58.9	59.6	59.9	60.0	60.1	60.1	60.2	60.2	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3
57.9	62.4	63.1	63.4	63.6	63.7	63.7	63.8	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9
58.7	63.2	63.9	64.2	64.4	64.6	64.7	64.8	64.8	64.9	64.9	64.9	64.9	64.9	64.9	64.9	64.9
58.9	63.7	64.3	64.8	65.1	65.2	65.4	65.6	65.6	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7
59.3	64.2	64.9	65.3	65.8	65.9	66.1	66.2	66.2	66.3	66.3	66.3	66.3	66.3	66.3	66.3	66.3
60.2	65.1	65.8	66.2	66.7	66.8	67.0	67.1	67.1	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
61.4	67.2	68.2	68.7	69.1	69.2	69.6	69.7	69.7	70.0	70.0	70.0	70.1	70.1	70.1	70.1	70.1
61.8	67.8	68.9	69.3	69.8	69.9	70.2	70.3	70.3	70.7	70.7	70.7	70.8	70.8	70.8	70.8	70.8
64.6	70.9	72.1	72.6	73.0	73.1	73.4	73.6	73.6	73.9	73.9	73.9	74.0	74.0	74.0	74.0	74.0
67.9	75.0	76.3	76.9	77.3	77.8	78.1	78.2	78.2	78.6	78.6	78.6	78.7	78.8	78.8	78.8	78.8
69.9	77.6	79.3	80.2	80.8	81.3	82.1	82.2	82.2	82.6	82.6	82.6	82.7	82.8	82.8	82.8	82.8
70.9	79.1	81.1	81.9	82.4	83.2	84.0	84.1	84.1	84.4	84.4	84.4	84.6	84.7	84.7	84.7	84.7
72.0	80.4	82.9	84.0	84.6	85.3	86.2	86.3	86.3	86.7	86.8	86.8	86.9	87.0	87.0	87.0	87.0
73.6	83.8	86.6	88.0	88.6	89.3	90.3	90.4	90.4	90.9	91.0	91.0	91.1	91.2	91.2	91.2	91.2
74.3	84.9	87.8	89.2	90.1	90.9	92.1	92.3	92.3	92.8	92.9	92.9	93.0	93.1	93.1	93.1	93.1
74.3	85.0	87.9	89.4	90.7	91.4	92.7	92.9	92.9	93.3	93.4	93.4	93.7	93.8	93.8	93.8	93.8
74.6	85.2	88.1	89.8	91.1	91.9	93.1	93.3	93.4	94.1	94.2	94.2	94.7	94.8	94.8	94.8	94.8
74.8	85.4	88.3	90.1	91.4	92.4	93.8	94.0	94.1	94.8	94.9	94.9	95.3	95.4	95.4	95.4	95.4
74.8	85.6	88.4	90.3	91.7	92.7	94.0	94.2	94.3	95.1	95.2	95.2	95.8	95.9	95.9	95.9	95.9
74.8	85.6	88.6	90.6	91.9	92.9	94.6	95.0	95.2	96.1	96.2	96.2	96.9	97.0	97.0	97.0	97.0
74.8	85.6	88.7	90.8	92.2	93.3	95.1	95.7	95.9	97.0	97.1	97.3	98.1	98.2	98.2	98.2	98.2
74.8	85.6	88.7	90.9	92.3	93.4	95.3	95.9	96.1	97.3	97.8	98.0	98.9	99.1	99.3	99.3	99.3
74.8	85.6	88.7	90.9	92.3	93.4	95.3	95.9	96.1	97.4	97.9	98.1	99.0	99.2	99.4	99.4	99.4
74.8	85.6	88.7	90.9	92.3	93.4	95.3	95.9	96.1	97.4	97.9	98.1	99.1	99.3	99.7	99.9	99.9
74.8	85.6	88.7	90.9	92.3	93.4	95.3	95.9	96.1	97.4	97.9	98.1	99.1	99.3	99.7	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 900

USAF ETAC 727575 GRAND FORKS AFB ND 73-62 1500-1700

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/HAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1900-2200

45.7	47.2	47.4	47.6	47.8	47.8	47.8	47.8	47.8	47.8	47.9	47.9	47.9	47.9	47.9
50.2	52.2	52.4	52.6	52.8	52.8	52.8	52.8	52.8	52.8	52.9	52.9	52.9	52.9	52.9
50.3	52.3	52.6	52.7	52.9	52.9	52.9	52.9	52.9	52.9	53.0	53.0	53.0	53.0	53.0
50.4	52.4	52.7	52.8	53.0	53.0	53.0	53.0	53.0	53.0	53.1	53.1	53.1	53.1	53.1
51.9	54.0	54.2	54.3	54.6	54.6	54.6	54.6	54.6	54.6	54.7	54.7	54.7	54.7	54.7
54.7	57.0	57.2	57.3	57.6	57.6	57.6	57.6	57.6	57.6	57.7	57.7	57.7	57.7	57.7
58.2	60.7	60.9	61.0	61.2	61.2	61.2	61.2	61.2	61.2	61.3	61.3	61.3	61.3	61.3
58.3	60.8	61.0	61.1	61.3	61.3	61.3	61.3	61.3	61.3	61.4	61.4	61.4	61.4	61.4
60.3	63.1	63.3	63.4	63.7	63.7	63.7	63.7	63.7	63.7	63.8	63.8	63.8	63.8	63.8
61.3	64.1	64.3	64.4	64.7	64.7	64.7	64.7	64.7	64.7	64.8	64.8	64.8	64.8	64.8
61.9	64.7	64.9	65.0	65.2	65.2	65.2	65.2	65.2	65.2	65.3	65.3	65.3	65.3	65.3
62.8	65.6	65.8	66.1	66.4	66.4	66.4	66.4	66.4	66.4	66.6	66.6	66.6	66.6	66.6
63.4	66.2	66.4	66.8	67.1	67.1	67.1	67.1	67.1	67.1	67.2	67.2	67.2	67.2	67.2
66.1	69.1	69.3	69.8	70.3	70.3	70.6	70.6	70.6	70.6	70.7	70.7	70.7	70.7	70.7
67.2	70.7	70.9	71.3	71.9	71.9	72.1	72.1	72.1	72.1	72.2	72.2	72.2	72.2	72.2
71.1	73.9	74.1	74.7	75.2	75.2	75.4	75.4	75.6	75.6	75.7	75.7	75.7	75.7	75.7
72.8	77.1	77.3	77.9	78.4	78.4	78.7	78.7	78.8	78.9	79.0	79.0	79.0	79.0	79.0
75.7	80.3	81.1	81.7	82.2	82.2	82.4	82.6	82.7	82.8	82.9	82.9	82.9	82.9	82.9
76.2	80.9	81.6	82.2	82.8	82.8	83.0	83.1	83.2	83.3	83.4	83.4	83.4	83.4	83.4
78.0	83.7	84.6	85.4	86.0	86.0	86.2	86.3	86.6	86.7	87.1	87.1	87.1	87.1	87.1
79.2	85.4	86.8	87.9	88.4	88.4	88.7	88.8	89.0	89.1	89.6	89.6	89.6	89.6	89.6
80.4	87.1	88.4	89.6	90.2	90.3	90.8	91.0	91.2	91.3	91.8	91.8	91.8	91.8	91.8
80.7	87.4	88.8	89.9	90.6	90.8	91.2	91.4	91.7	91.9	92.3	92.3	92.6	92.6	92.6
81.0	87.9	89.2	90.3	91.0	91.2	91.8	92.0	92.7	92.9	93.3	93.3	93.6	93.6	93.6
81.1	88.2	89.6	90.8	91.4	91.8	92.4	92.7	93.3	93.7	94.1	94.1	94.3	94.3	94.3
81.1	88.4	89.9	91.1	92.2	92.6	93.3	93.6	94.2	94.7	95.4	95.4	95.7	95.7	95.7
81.1	88.6	90.1	91.3	92.4	92.9	93.7	93.9	94.6	95.1	95.9	95.9	96.1	96.1	96.1
81.2	88.8	90.6	91.9	93.0	93.6	94.7	94.9	95.9	96.6	97.3	97.3	97.7	97.7	97.7
81.2	88.8	90.6	91.9	93.0	93.6	95.1	95.3	96.6	97.2	98.0	98.0	98.7	98.7	98.8
81.2	88.8	90.6	91.9	93.0	93.6	95.1	95.3	96.6	97.4	98.2	98.2	98.9	98.9	99.1
81.2	88.8	90.6	91.9	93.0	93.6	95.1	95.3	96.6	97.4	98.3	98.3	99.1	99.1	99.4
81.2	88.8	90.6	91.9	93.0	93.6	95.1	95.3	96.6	97.4	98.3	98.3	99.2	99.2	99.4

TOTAL NUMBER OF OBSERVATIONS 920

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-62

NOV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2120-2320

45.4	46.7	47.1	47.1	47.7	47.7	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
50.4	52.0	52.3	52.4	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
50.4	52.0	52.3	52.4	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
50.4	52.0	52.3	52.4	53.0	53.0	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
51.3	53.1	53.4	53.6	54.1	54.1	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2
53.0	55.1	55.4	55.6	56.1	56.1	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2
56.7	58.9	59.2	59.3	59.9	59.9	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
57.2	59.4	59.8	59.9	60.4	60.4	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6
59.1	61.6	61.9	62.2	62.8	62.8	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9	62.9
59.8	62.3	62.7	63.0	63.6	63.6	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7	63.7
60.2	62.9	63.2	63.7	64.3	64.3	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4	64.4
62.3	65.0	65.3	65.8	66.4	66.4	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6
62.6	65.2	65.6	66.0	66.7	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
65.3	68.4	68.8	69.2	70.2	70.2	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6	70.6
66.2	69.6	69.9	70.3	71.3	71.3	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7
68.9	72.4	72.8	73.2	74.2	74.2	74.7	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8	74.8
71.2	75.2	75.6	76.0	77.0	77.0	77.4	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7
75.1	79.1	79.4	80.3	81.3	81.6	82.1	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
75.9	80.1	80.6	81.4	82.4	82.7	83.2	83.4	83.4	83.4	83.4	83.4	83.4	83.4	83.4	83.4
78.2	83.6	84.3	85.4	86.7	86.9	87.4	87.7	87.7	87.7	87.9	87.9	87.9	87.9	87.9	87.9
79.3	84.4	85.7	86.8	88.0	88.2	88.4	89.1	89.1	89.1	89.3	89.3	89.3	89.3	89.3	89.3
79.8	86.0	86.9	88.3	89.6	89.8	90.4	90.7	90.7	90.7	90.9	90.9	90.9	90.9	90.9	90.9
80.4	86.4	87.8	89.2	90.6	90.9	91.6	92.0	92.2	92.2	92.4	92.4	92.4	92.4	92.4	92.4
80.4	87.0	87.9	89.3	90.7	91.0	91.7	92.1	92.8	92.8	93.0	93.0	93.0	93.0	93.0	93.0
80.4	87.6	88.6	90.1	91.4	91.8	92.4	92.9	93.6	93.7	93.9	93.9	93.9	93.9	93.9	93.9
80.6	87.8	89.1	90.7	92.3	92.7	93.3	93.8	94.4	94.6	94.8	94.8	94.8	94.8	94.8	94.8
80.7	88.0	89.3	91.0	92.9	93.2	94.1	94.8	95.2	95.3	95.6	95.6	95.6	95.6	95.6	95.6
80.7	88.1	89.4	91.3	93.4	93.8	95.2	95.7	96.4	96.9	97.1	97.1	97.4	97.4	97.4	97.4
80.9	88.3	89.7	91.6	93.7	94.0	95.7	96.1	97.2	97.9	98.1	98.1	98.4	98.4	98.4	98.4
80.9	88.3	89.7	91.6	93.7	94.0	95.8	96.3	97.7	98.3	98.7	98.7	99.0	99.0	99.0	99.0
80.9	88.3	89.7	91.6	93.7	94.0	95.8	96.3	97.7	98.3	98.7	98.7	99.0	99.0	99.3	99.8
80.9	88.3	89.7	91.6	93.7	94.0	95.8	96.3	97.7	98.3	98.7	98.7	99.0	99.0	99.3	100.0

TOTAL NUMBER OF OBSERVATIONS 900

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

NGV

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

43.4	45.5	45.9	46.2	46.5	46.6	46.7	46.8	46.8	46.9	46.9	46.9	46.9	46.9	46.9	46.9	46.9
48.3	50.4	50.9	51.2	51.6	51.6	51.7	51.8	51.8	51.9	51.9	51.9	51.9	51.9	51.9	52.0	52.0
48.3	50.7	51.1	51.4	51.8	51.8	52.0	52.1	52.1	52.1	52.2	52.2	52.2	52.2	52.2	52.2	52.2
48.4	50.7	51.2	51.5	51.9	51.9	52.1	52.1	52.1	52.2	52.2	52.2	52.2	52.2	52.2	52.3	52.3
49.1	51.5	52.0	52.3	52.7	52.7	52.8	52.9	52.9	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
51.0	53.5	54.0	54.3	54.7	54.7	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
54.0	56.8	57.2	57.5	57.9	58.0	58.1	58.2	58.2	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3
54.4	57.2	57.7	58.0	58.4	58.4	58.5	58.6	58.6	58.7	58.7	58.7	58.7	58.7	58.7	58.8	58.8
56.7	59.8	60.4	60.7	61.3	61.3	61.4	61.5	61.5	61.6	61.6	61.6	61.6	61.6	61.6	61.7	61.7
57.4	60.6	61.2	61.6	62.2	62.2	62.4	62.5	62.5	62.6	62.6	62.6	62.6	62.6	62.6	62.6	62.6
57.9	61.2	61.8	62.2	62.8	62.8	63.1	63.1	63.1	63.2	63.2	63.2	63.3	63.3	63.3	63.3	63.3
59.6	63.1	63.8	64.2	64.9	64.9	65.1	65.2	65.2	65.3	65.3	65.3	65.3	65.3	65.3	65.4	65.4
60.3	63.8	64.5	64.9	65.6	65.6	65.8	65.9	65.9	66.0	66.0	66.0	66.0	66.0	66.0	66.1	66.1
62.3	66.3	67.0	67.4	68.2	68.2	68.6	68.7	68.7	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9
63.2	67.4	68.1	68.6	69.3	69.4	69.7	69.8	69.8	70.0	70.0	70.0	70.0	70.0	70.0	70.1	70.1
65.6	70.1	70.8	71.4	72.2	72.3	72.6	72.7	72.8	72.9	73.0	73.0	73.0	73.0	73.0	73.2	73.2
67.9	73.0	73.8	74.4	75.3	75.4	75.9	76.1	76.1	76.3	76.3	76.3	76.4	76.4	76.4	76.4	76.4
71.2	76.7	77.8	78.6	79.5	79.7	80.4	80.6	80.6	80.8	80.9	80.9	81.0	81.0	81.0	81.0	81.0
71.9	77.6	78.7	79.5	80.5	80.7	81.4	81.6	81.6	81.8	81.9	81.9	82.0	82.0	82.0	82.0	82.0
73.7	80.1	81.5	82.5	83.7	83.9	84.6	84.8	84.9	85.2	85.4	85.4	85.4	85.4	85.5	85.5	85.5
75.0	82.2	83.3	85.0	86.2	86.5	87.3	87.6	87.7	88.0	88.2	88.2	88.3	88.3	88.3	88.3	88.3
75.7	83.4	85.1	86.5	87.8	88.0	88.9	89.3	89.4	89.8	90.0	90.0	90.0	90.1	90.1	90.2	90.2
76.1	84.2	85.9	87.4	89.0	89.4	90.3	90.7	90.9	91.4	91.6	91.6	91.7	91.7	91.7	91.8	91.8
76.3	84.4	86.3	87.8	89.4	89.9	91.0	91.4	91.7	92.4	92.6	92.6	92.8	92.8	92.8	92.8	92.8
76.5	84.8	86.7	88.3	90.0	90.5	91.7	92.3	92.7	93.3	93.5	93.6	93.8	93.8	93.8	93.8	93.8
76.6	85.1	87.0	88.7	90.5	91.0	92.4	93.0	93.3	94.1	94.4	94.4	94.6	94.6	94.7	94.7	94.7
76.7	85.3	87.3	89.1	91.0	91.6	93.1	93.8	94.3	95.2	95.6	95.6	95.9	96.0	96.0	96.0	96.0
76.7	85.4	87.7	89.7	91.8	92.5	94.4	95.2	95.7	96.8	97.3	97.4	97.8	97.9	97.9	97.9	97.9
76.8	85.5	87.7	89.7	91.9	92.6	94.6	95.6	96.2	97.5	98.1	98.2	98.7	98.8	99.0	99.0	99.0
76.8	85.5	87.7	89.7	91.9	92.6	94.7	95.7	96.3	97.7	98.4	98.5	99.0	99.2	99.3	99.4	99.4
76.8	85.5	87.7	89.7	91.9	92.6	94.7	95.7	96.3	97.8	98.4	98.6	99.2	99.3	99.6	99.8	99.8
76.8	85.5	87.7	89.7	91.9	92.6	94.7	95.7	96.3	97.8	98.4	98.6	99.2	99.4	99.6	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 7199

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0000-0200

42.2	43.3	43.4	43.8	44.1	44.2	44.2	44.2	44.4	44.4	44.5	44.5	44.5	44.5	44.6	44.7
43.9	44.8	45.3	45.7	46.0	46.1	46.1	46.1	46.3	46.3	46.5	46.5	46.5	46.5	46.6	46.7
43.9	44.8	45.3	45.7	46.0	46.1	46.1	46.1	46.3	46.3	46.5	46.5	46.5	46.5	46.6	46.7
44.3	45.3	45.7	46.1	46.5	46.6	46.6	46.6	46.8	46.8	46.9	46.9	46.9	46.9	47.0	47.1
45.5	46.5	46.9	47.3	47.6	47.7	47.7	47.7	48.0	48.0	48.1	48.1	48.1	48.1	48.2	48.3
50.0	51.2	51.7	52.3	52.6	52.7	52.7	52.7	52.9	53.0	53.1	53.1	53.1	53.1	53.2	53.3
50.8	52.3	52.8	53.3	53.7	53.8	53.8	53.8	54.0	54.1	54.2	54.2	54.2	54.2	54.3	54.4
53.0	54.6	55.2	55.7	56.0	56.1	56.1	56.1	56.3	56.5	56.6	56.6	56.6	56.6	56.7	56.8
54.1	56.6	57.1	57.6	58.0	58.1	58.1	58.2	58.4	58.5	58.6	58.6	58.6	58.6	58.7	58.8
56.0	58.8	59.9	60.5	61.0	61.1	61.1	61.2	61.4	61.5	61.6	61.6	61.6	61.6	61.7	61.8
58.7	61.8	63.0	63.8	64.3	64.4	64.4	64.5	64.8	64.9	65.1	65.1	65.1	65.1	65.2	65.3
59.3	62.5	63.7	64.4	64.9	65.1	65.1	65.2	65.5	65.6	65.7	65.7	65.7	65.7	65.8	65.9
60.8	64.6	66.1	67.1	67.7	67.8	67.8	68.0	68.3	68.7	68.8	68.8	68.8	68.8	68.9	69.0
62.3	66.6	68.3	69.4	70.0	70.1	70.1	70.2	70.5	71.0	71.1	71.1	71.1	71.1	71.2	71.3
64.0	69.1	71.0	72.2	72.8	72.9	72.9	73.0	73.3	73.8	73.9	73.9	73.9	73.9	74.0	74.1
65.4	71.3	73.4	74.9	75.7	76.0	76.0	76.1	76.5	76.9	77.0	77.0	77.0	77.0	77.1	77.2
66.9	73.4	75.7	77.4	78.3	78.7	78.7	78.9	79.2	79.7	79.8	79.8	79.8	79.8	79.9	80.0
67.4	74.0	76.3	78.1	78.9	79.4	79.4	79.6	79.9	80.3	80.4	80.4	80.4	80.4	80.5	80.6
69.1	75.9	78.4	80.2	81.3	81.9	81.9	82.2	82.5	82.9	83.0	83.0	83.0	83.0	83.1	83.2
71.6	78.8	81.5	83.3	84.6	85.3	85.6	85.8	86.1	86.7	86.8	86.8	86.8	86.8	86.9	87.0
72.3	80.0	82.7	84.7	86.0	86.7	87.0	87.2	87.5	88.1	88.3	88.3	88.3	88.3	88.4	88.5
72.9	81.0	83.9	86.0	87.3	88.0	88.3	88.6	88.9	89.5	89.7	89.7	89.7	89.7	89.8	89.9
73.2	81.3	84.4	86.8	88.4	89.0	89.4	89.7	90.0	90.5	90.8	90.8	90.8	90.8	90.9	91.0
73.8	82.4	85.6	88.2	89.9	90.5	90.9	91.3	91.6	92.2	92.4	92.4	92.4	92.4	92.5	92.6
73.8	82.4	85.7	88.3	90.0	90.6	91.1	91.4	92.2	92.7	92.9	92.9	92.9	92.9	93.0	93.1
73.9	82.7	86.1	88.7	90.4	91.1	91.5	92.3	92.6	93.1	93.3	93.3	93.3	93.7	93.8	93.9
73.9	83.1	86.8	89.5	91.3	92.2	92.7	94.0	94.3	94.9	95.4	95.6	96.0	96.0	96.1	96.2
73.9	83.1	86.8	89.6	91.6	92.6	93.4	95.1	96.1	97.0	97.4	97.6	98.1	98.1	98.2	98.3
73.9	83.1	86.8	89.6	91.6	92.6	93.4	95.3	96.3	97.5	98.5	98.7	99.1	99.1	99.6	99.7
73.9	83.1	86.8	89.6	91.6	92.6	93.4	95.3	96.3	97.5	98.5	98.7	99.1	99.1	99.9	100.0
73.9	83.1	86.8	89.6	91.6	92.6	93.4	95.3	96.3	97.5	98.5	98.7	99.1	99.1	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 930

CEILING VERSUS VISIBILITY

73-37

04C

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

322-2524

42.1	42.8	43.1	43.5	44.1	44.1	44.2	44.1	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
43.9	44.7	45.1	45.5	46.0	46.0	46.1	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2
43.9	44.7	45.1	45.5	46.0	46.0	46.1	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2
44.1	44.8	45.2	45.6	46.1	46.1	46.2	46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3	46.3
44.2	45.1	45.4	45.8	46.3	46.3	46.5	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
45.4	46.2	46.6	47.0	47.5	47.5	47.6	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7
50.4	51.5	51.9	52.4	53.1	53.1	53.2	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3	53.3
51.1	52.4	52.8	53.2	54.0	54.0	54.1	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.2
53.2	54.5	54.9	55.4	56.1	56.1	56.2	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3
54.6	56.2	56.7	57.1	57.8	57.8	58.1	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3	58.3
56.7	58.5	59.1	59.8	60.6	60.6	60.9	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1	61.1
58.8	61.4	62.0	62.8	63.8	63.8	64.0	64.2	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3
59.5	62.4	63.0	63.8	64.8	64.8	65.1	65.3	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4	65.4
62.0	65.3	66.1	67.0	68.2	68.2	68.4	68.6	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
63.9	67.2	68.2	69.1	70.4	70.4	70.6	70.9	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.1
65.7	69.6	70.9	72.2	73.4	73.4	73.7	73.9	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
67.0	71.6	73.2	74.9	76.2	76.2	76.5	76.7	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9
68.7	74.4	76.3	78.2	79.5	79.6	79.8	80.0	80.2	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4
69.0	75.1	77.0	78.8	80.1	80.2	80.4	80.6	80.9	81.1	81.1	81.1	81.1	81.1	81.1	81.1	81.1
70.9	77.3	79.4	81.3	82.6	82.8	83.3	83.5	83.8	84.1	84.2	84.2	84.3	84.3	84.3	84.3	84.3
72.3	79.0	81.1	83.0	84.4	84.6	85.4	85.6	85.8	86.1	86.2	86.2	86.3	86.3	86.3	86.3	86.3
73.3	80.2	82.3	84.3	85.7	86.0	86.8	87.1	87.4	87.7	87.8	87.8	88.0	88.0	88.0	88.2	88.2
73.5	80.6	82.8	84.8	86.3	86.7	87.4	87.7	88.1	88.4	88.5	88.5	88.6	88.6	88.6	88.6	88.6
73.8	81.1	83.4	85.9	87.4	87.7	88.5	88.8	89.1	89.6	89.7	89.7	89.8	89.8	89.8	89.8	89.8
74.1	81.6	84.2	86.9	88.6	89.1	90.3	90.6	91.0	91.5	91.6	91.6	91.8	91.8	91.8	91.8	91.8
74.4	82.3	85.2	88.0	89.9	90.4	91.9	92.3	92.6	93.1	93.2	93.2	93.4	93.4	93.4		

TOTAL NUMBER OF OBSERVATIONS 930

USAF F1AC 0-14-5 (GLA) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

0600-2000

41.0	43.9	44.4	44.8	45.2	45.3	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
43.5	46.5	47.1	47.4	47.7	47.8	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1
43.7	46.6	47.1	47.5	47.8	48.0	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2
43.7	46.6	47.1	47.5	47.8	48.0	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2
44.1	47.0	47.5	48.0	48.3	48.4	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
45.3	48.2	48.7	49.1	49.5	49.6	49.9	49.9	49.9	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
48.7	51.9	52.5	52.9	53.2	53.3	53.7	53.7	53.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8
49.2	52.5	53.0	53.4	53.8	53.9	54.2	54.2	54.2	54.3	54.3	54.3	54.3	54.3	54.3	54.3	54.3
51.9	55.3	56.0	56.5	56.8	56.9	57.2	57.2	57.2	57.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4
53.4	57.2	58.1	58.5	58.9	59.0	59.7	59.7	59.7	59.9	59.9	59.9	59.9	59.9	59.9	59.9	59.9
54.8	58.9	59.8	60.3	60.9	61.0	61.4	61.6	61.6	61.8	61.8	61.8	61.8	61.8	61.8	61.8	61.8
58.2	62.5	63.9	64.4	65.1	65.2	65.8	65.8	65.8	66.0	66.0	66.0	66.0	66.0	66.0	66.0	66.0
58.5	63.2	64.6	65.2	65.8	65.9	66.4	66.6	66.6	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
60.1	65.3	66.7	67.4	68.2	68.3	69.1	69.1	69.1	69.4	69.4	69.4	69.4	69.4	69.4	69.4	69.4
60.6	66.5	68.1	68.8	69.8	69.9	70.8	70.8	70.8	71.0	71.0	71.0	71.0	71.0	71.0	71.0	71.0
62.6	69.0	70.6	71.5	72.5	72.6	73.4	73.4	73.4	73.7	73.7	73.7	73.7	73.7	73.7	73.7	73.7
64.3	71.1	73.3	74.1	75.1	75.2	76.0	76.0	76.0	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2
66.3	73.9	75.9	77.1	78.2	78.3	79.1	79.2	79.2	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6
66.5	74.2	76.2	77.4	78.5	78.7	79.6	79.7	79.7	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
67.5	75.7	77.8	79.1	80.3	80.8	82.5	82.7	82.8	83.1	83.2	83.2	83.2	83.2	83.2	83.2	83.2
68.5	77.1	79.4	80.9	82.3	82.7	85.2	85.5	85.6	85.9	86.0	86.0	86.0	86.0	86.0	86.0	86.0
69.5	78.5	80.9	82.7	84.2	84.7	87.4	88.2	88.3	88.6	88.7	88.7	88.7	88.8	88.8	88.8	88.8
69.7	78.8	81.4	83.4	85.1	85.6	88.3	89.2	89.4	89.7	89.8	89.8	89.8	89.8	89.9	89.9	89.9
70.2	79.4	82.2	84.4	86.2	86.8	89.5	90.4	90.5	90.9	91.0	91.0	91.0	91.1	91.1	91.1	91.1
70.3	79.8	82.6	85.4	87.3	87.8	90.6	91.6	91.8	92.2	92.3	92.3	92.6	92.7	92.7	92.7	92.7
70.5	79.8	83.2	86.1	88.2	88.7	91.5	92.5	92.7	93.0	93.2	93.2	93.5	93.7	93.7	93.7	93.7
70.9	80.2	83.8	86.8	88.9	89.5	92.5	93.4	93.9	94.4	94.6	94.6	94.9	95.1	95.1	95.2	95.2
70.9	80.8	84.3	87.3	89.8	90.4	93.5	94.5	94.9	95.6	95.8	95.8	96.2	96.3	96.3	96.5	96.5
70.9	80.8	84.3	87.3	89.9	90.5	94.0	95.1	96.0	97.4	97.6	97.6	98.2	98.3	98.3	98.4	98.4
70.9	80.8	84.3	87.3	89.9	90.5	94.0	95.1	96.0	97.5	97.7	97.7	98.4	98.5	98.7	99.0	99.0
70.9	80.8	84.4	87.4	90.0	90.6	94.1	95.2	96.1	97.6	97.8	97.8	98.5	98.6	99.1	99.6	99.6
70.9	80.8	84.4	87.4	90.0	90.6	94.1	95.2	96.1	97.6	97.8	97.8	98.5	98.6	99.2	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

CEILING VERSUS VISIBILITY

73-82

DEC

0900-1120

37.4	41.1	42.7	42.5	42.8	42.9	42.9	42.9	43.1	43.2	43.3	43.3	43.3	43.3	43.4
42.0	46.1	47.3	47.7	48.2	48.3	48.4	48.4	48.6	48.7	48.8	48.8	48.8	48.8	48.9
42.0	46.1	47.3	47.7	48.2	48.3	48.4	48.4	48.6	48.7	48.8	48.8	48.8	48.8	48.9
42.2	46.2	47.4	47.8	48.3	48.4	48.5	48.5	48.7	48.8	48.9	48.9	48.9	48.9	49.0
43.3	47.2	48.4	48.8	49.4	49.5	49.6	49.6	49.8	49.9	50.0	50.0	50.0	50.0	50.1
44.1	48.3	49.5	49.9	50.5	50.8	50.9	50.9	51.1	51.3	51.4	51.4	51.4	51.4	51.5
47.1	51.7	53.0	53.4	54.1	54.3	54.4	54.4	54.6	54.8	54.9	54.9	54.9	54.9	55.1
48.0	52.7	54.1	54.5	55.2	55.4	55.5	55.5	55.7	55.9	56.0	56.0	56.0	56.0	56.1
51.4	56.7	58.3	58.8	59.5	59.8	60.0	60.0	60.2	60.4	60.5	60.6	60.6	60.6	60.8
52.5	58.0	59.8	60.3	61.0	61.3	61.6	61.6	61.8	62.0	62.2	62.3	62.3	62.3	62.4
53.5	59.1	61.1	61.6	62.3	62.6	63.2	63.2	63.4	63.7	63.8	63.9	63.9	63.9	64.0
55.1	61.4	63.9	64.6	65.5	65.8	66.6	66.6	66.8	67.0	67.1	67.2	67.2	67.2	67.3
55.7	62.2	64.5	65.4	66.2	66.6	67.3	67.3	67.5	67.7	67.8	68.0	68.0	68.0	68.1
57.1	64.5	67.1	68.0	69.2	69.7	70.4	70.8	71.0	71.4	71.5	71.6	71.6	71.6	71.7
57.1	64.6	67.1	68.2	69.5	69.9	70.6	71.1	71.3	71.7	71.8	71.9	71.9	71.9	72.0
58.5	66.5	69.1	70.3	72.0	72.5	73.2	73.7	73.9	74.3	74.4	74.5	74.5	74.5	74.6
59.5	68.3	71.7	73.2	75.4	75.8	76.6	77.0	77.2	77.6	77.7	77.8	77.8	77.8	78.0
60.4	69.7	73.4	75.1	78.1	78.5	79.5	79.9	80.1	80.5	80.8	80.9	80.9	80.9	81.0
60.8	70.2	74.0	75.6	78.7	79.1	80.1	80.5	80.8	81.2	81.4	81.5	81.5	81.5	81.6
61.5	71.5	75.3	77.1	80.2	80.8	81.8	82.4	82.6	83.0	83.2	83.3	83.3	83.3	83.4
62.0	72.7	76.5	78.4	81.6	82.2	83.5	84.5	84.9	85.6	85.9	86.0	86.0	86.0	86.1
62.0	73.3	77.3	79.5	82.8	83.5	84.9	86.0	86.6	87.3	87.6	87.7	87.7	87.7	87.8
62.2	73.4	77.6	80.1	83.5	84.3	85.7	86.9	87.4	88.2	88.5	88.6	88.8	89.0	89.2
62.5	73.9	78.1	80.6	84.4	85.2	86.7	87.8	88.4	89.2	89.6	89.7	89.9	90.1	90.3
62.5	74.0	78.3	81.0	85.2	85.9	87.6	88.8	89.4	90.3	90.6	90.8	91.2	91.4	91.6
62.5	74.0	78.3	81.4	85.9	86.7	88.4	89.6	90.1	91.1	91.4	91.5	91.9	92.2	92.3
62.5	74.0	78.3	81.8	86.7	87.6	89.5	90.8	91.3	92.5	92.9	93.0	93.4	93.7	93.8
62.5	74.3	78.8	82.4	87.4	88.7	90.8	92.5	93.0	94.3	95.1	95.2	95.6	95.8	95.9
62.5	74.3	78.8	82.4	87.4	88.7	90.9	92.8	93.3	95.3	96.7	97.0	97.7	98.2	98.5
62.5	74.3	78.8</												

TOTAL NUMBER OF OBSERVATIONS 930

USAF ETAC 0-14.5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

12.0-1400

20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
37.7	41.6	42.0	42.7	43.4	43.7	43.8	43.9	43.9	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
41.9	46.7	47.1	47.7	48.5	48.7	48.8	48.9	48.9	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1
42.3	47.0	47.4	48.1	48.8	49.0	49.1	49.2	49.2	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5
42.3	47.0	47.4	48.1	48.8	49.0	49.1	49.2	49.2	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5
42.9	48.0	48.4	49.0	49.8	50.0	50.1	50.2	50.2	50.4	50.4	50.4	50.4	50.4	50.4	50.4	50.4
43.7	48.9	49.4	50.0	50.9	51.1	51.2	51.3	51.3	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
46.0	51.7	52.3	52.9	53.9	54.1	54.2	54.3	54.3	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
46.5	52.2	52.9	53.4	54.4	54.6	54.7	54.8	54.8	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.1
49.0	55.5	56.1	57.0	58.2	58.4	58.6	58.8	58.8	59.0	59.0	59.2	59.2	59.2	59.2	59.2	59.2
50.0	56.6	57.2	58.2	59.4	59.6	59.8	60.0	60.0	60.2	60.2	60.4	60.4	60.4	60.4	60.4	60.4
51.4	58.5	59.1	60.2	61.4	61.7	62.2	62.4	62.4	62.6	62.6	62.8	62.8	62.8	62.8	62.8	62.8
53.8	61.4	62.5	63.8	65.4	65.7	66.2	66.5	66.5	66.9	66.9	67.1	67.1	67.1	67.1	67.1	67.1
53.8	61.4	62.5	63.8	65.5	65.8	66.5	66.7	66.7	67.1	67.1	67.3	67.3	67.3	67.3	67.3	67.3
55.1	63.0	64.5	66.7	68.9	69.2	70.3	70.5	70.5	71.1	71.1	71.3	71.5	71.5	71.5	71.5	71.5
55.2	63.2	64.7	66.9	69.1	69.5	70.5	70.9	70.9	71.5	71.5	71.7	71.9	71.9	71.9	71.9	71.9
56.2	64.3	65.8	68.0	70.4	70.8	71.9	72.3	72.3	73.0	73.0	73.2	73.4	73.4	73.4	73.4	73.4
57.1	65.4	67.0	69.1	72.0	72.5	74.1	74.4	74.4	75.2	75.3	75.5	75.7	75.7	75.7	75.7	75.7
58.0	66.5	68.3	70.9	74.3	74.7	76.3	76.8	76.8	77.5	77.6	77.8	78.1	78.1	78.1	78.1	78.1
58.4	67.3	69.1	71.7	75.2	75.6	77.5	78.0	78.0	78.7	78.8	79.0	79.2	79.2	79.2	79.2	79.2
59.5	69.2	71.2	73.8	77.4	78.0	80.0	80.4	80.4	81.4	81.5	81.7	81.9	81.9	81.9	81.9	81.9
60.0	70.9	73.0	75.7	79.6	80.1	82.2	82.8	82.8	84.2	84.4	84.6	84.8	84.8	84.8	84.8	84.8
60.3	72.0	74.6	77.6	81.6	82.3	84.3	84.9	85.1	86.3	86.6	86.8	87.2	87.2	87.2	87.2	87.2
60.4	72.6	75.4	78.7	82.9	83.7	85.9	86.6	86.7	88.1	88.3	88.5	88.9	89.1	89.2	89.2	89.2
60.5	72.9	76.2	79.6	84.0	84.7	87.1	87.7	88.0	89.5	89.7	89.9	90.4	90.6	90.8	90.8	90.8
60.5	72.9	76.2	79.8	84.4	85.2	87.6	88.5	88.7	90.2	90.5	90.8	91.5	91.7	91.8	91.8	91.8
60.5	73.1	76.8	80.9	86.1	86.9	89.6	90.4	90.6	92.2	92.5	92.7	93.4	93.7	93.8	93.8	93.8
60.6	73.2	77.1	81.5	87.0	88.0	91.0	92.0	92.3	93.9	94.2	94.4	95.2	95.4	95.5	95.8	95.8
60.6	73.2	77.2	81.6	87.2	88.4	91.5	92.8	93.0	94.9	95.3	95.8	96.7	96.9	97.0	97.3	97.3
60.6	73.2	77.2	81.6	87.2	88.4	91.5	93.2	93.5	95.7	96.1	96.8	97.8	98.1	98.3	98.6	98.6
60.6	73.2	77.2	81.6	87.2	88.4	91.5	93.2	93.5	95.7	96.2	96.9	98.6	98.8	99.0	99.4	99.4
60.6	73.2	77.2	81.6	87.2	88.4	91.5	93.2	93.5	95.7	96.2	96.9	98.6	98.8	99.4	100.0	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1510-1710

39.0	42.9	43.7	43.1	43.8	44.0	44.1	44.2	44.2	44.3	44.4	44.4	44.4	44.4	44.4	44.4
43.7	48.3	48.6	48.7	49.5	49.7	49.8	49.9	49.9	50.0	50.2	50.2	50.2	50.2	50.2	50.2
44.4	49.0	49.4	49.5	50.2	50.4	50.5	50.6	50.6	50.8	51.0	51.0	51.0	51.0	51.0	51.0
44.4	49.1	49.5	49.6	50.3	50.5	50.6	50.8	50.8	50.9	51.1	51.1	51.1	51.1	51.1	51.1
44.8	49.8	50.1	50.2	51.0	51.2	51.3	51.4	51.4	51.5	51.7	51.7	51.7	51.7	51.7	51.7
46.5	51.4	51.7	51.8	52.6	52.8	52.9	53.0	53.0	53.1	53.3	53.3	53.3	53.3	53.3	53.3
49.6	55.5	55.9	56.1	56.9	57.1	57.2	57.3	57.3	57.6	57.8	57.8	57.8	57.8	57.8	57.8
50.0	56.0	56.6	56.8	57.5	57.7	57.8	58.0	58.0	58.3	58.5	58.5	58.5	58.5	58.5	58.5
51.3	58.2	58.9	59.2	60.2	60.5	60.6	60.8	60.8	61.1	61.3	61.3	61.3	61.3	61.3	61.3
52.7	59.7	60.4	60.8	61.8	62.2	62.3	62.4	62.4	62.7	62.9	62.9	62.9	62.9	62.9	62.9
53.9	61.8	62.6	62.9	64.2	64.5	64.8	64.9	64.9	65.5	65.7	65.7	65.7	65.7	65.7	65.7
55.3	63.8	64.5	65.2	66.9	67.2	67.5	67.6	67.6	68.2	68.4	68.4	68.4	68.4	68.4	68.4
55.6	64.1	64.8	65.5	67.2	67.5	67.8	68.0	68.0	68.5	68.7	68.7	68.7	68.7	68.7	68.7
57.0	66.0	67.3	68.2	70.1	70.6	71.3	71.4	71.4	71.9	72.2	72.2	72.2	72.2	72.2	72.2
57.4	66.5	67.7	68.6	70.5	71.1	71.7	71.8	71.8	72.4	72.6	72.6	72.6	72.6	72.6	72.6
58.6	67.7	69.0	69.9	71.8	72.5	73.1	73.2	73.2	73.9	74.1	74.1	74.1	74.1	74.1	74.1
59.6	69.5	71.4	72.5	74.5	75.3	75.9	76.1	76.1	76.9	77.3	77.3	77.3	77.3	77.3	77.3
61.1	71.7	73.7	74.9	77.1	77.8	78.7	79.0	79.0	80.0	80.4	80.4	80.4	80.4	80.4	80.4
61.2	72.2	74.1	75.4	77.5	78.3	79.1	79.5	79.5	80.4	80.9	80.9	80.9	80.9	80.9	80.9
62.5	74.1	76.2	77.8	80.0	80.8	81.9	82.3	82.3	83.5	84.0	84.0	84.0	84.0	84.0	84.0
63.2	75.7	77.8	79.7	82.0	82.8	84.1	84.4	84.4	85.9	86.3	86.3	86.3	86.3	86.3	86.3
63.8	76.9	79.1	81.2	83.7	84.4	85.9	86.2	86.2	88.1	88.5	88.5	88.6	88.6	88.6	88.7
63.8	77.0	79.5	81.9	84.5	85.6	87.3	87.7	87.7	89.6	90.0	90.0	90.2	90.4	90.4	90.5
63.9	77.2	79.8	82.5	85.3	86.3	88.1	88.8	89.0	90.9	91.3	91.3	91.6	91.8	91.8	91.9
63.9	77.3	79.9	83.0	86.0	87.1	88.9	89.9	90.2	92.0	92.6	92.6	93.0	93.2	93.2	93.3
63.9	77.3	80.0	83.7	87.3	88.4	90.3	91.3	91.6	93.4	94.0	94.0	94.4	94.6	94.6	94.7
63.9	77.4	80.1	83.9	87.5	88.6	90.5	91.9	92.4	94.3	95.2	95.2	95.7	95.9	95.9	96.0
63.9	77.6	80.6	84.4	88.1	89.4	91.5	92.9	93.3	95.6	96.5	96.7	97.2	97.4	97.4	97.5
63.9	77.7	80.8	84.5	88.4	89.8	92.0	93.5	94.1	96.5	97.3	97.5	98.1	98.3	98.3	98.4
63.9	77.7	80.9	84.6	88.5	89.9	92.2	93.7	94.3	96.7	97.6	97.8	98.8	99.0	99.0	99.1
63.9	77.7	80.9	84.6	88.5	89.9	92.2	93.7	94.3	96.7	97.7	98.0	98.9	99.1	99.5	100.0
63.9	77.7	80.9	84.6	88.5	89.9	92.2	93.7	94.3	96.7	97.7	98.0	98.9	99.1	99.5	100.0

TOTAL NUMBER OF OBSERVATIONS 930

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORMS AFB ND

73-82

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

1800-2000

41.1	43.8	44.1	44.7	44.8	44.9	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1	45.1
44.1	47.3	47.5	48.0	48.1	48.2	48.4	48.4	48.4	48.4	48.8	48.8	48.8	48.8	48.8	48.8
44.6	47.5	47.9	48.4	48.5	48.7	48.9	48.9	48.9	48.9	49.2	49.2	49.2	49.2	49.2	49.2
44.6	47.5	47.9	48.4	48.5	48.7	48.9	48.9	48.9	48.9	49.2	49.2	49.2	49.2	49.2	49.2
45.2	48.1	48.5	49.1	49.2	49.3	49.5	49.5	49.5	49.5	49.8	49.8	49.8	49.8	49.8	49.8
46.0	48.9	49.3	49.8	49.9	50.1	50.3	50.3	50.3	50.3	50.6	50.6	50.6	50.6	50.6	50.6
50.8	54.4	54.8	55.4	55.6	55.7	56.0	56.0	56.0	56.2	56.5	56.5	56.5	56.5	56.5	56.5
52.0	55.9	56.3	57.0	57.1	57.2	57.5	57.5	57.5	57.7	58.0	58.0	58.0	58.0	58.0	58.0
53.5	57.9	58.4	59.0	59.2	59.3	59.7	59.7	59.7	59.9	60.2	60.2	60.2	60.2	60.2	60.2
54.6	59.0	59.4	60.1	60.3	60.4	60.7	60.7	60.7	60.9	61.3	61.3	61.3	61.3	61.3	61.3
55.6	60.5	60.9	61.9	62.1	62.4	62.7	62.7	62.7	62.9	63.2	63.2	63.2	63.2	63.2	63.2
56.6	62.1	62.8	63.9	64.3	64.5	64.8	64.8	64.8	65.0	65.4	65.4	65.4	65.4	65.4	65.4
57.7	62.6	63.2	64.3	64.7	64.9	65.3	65.3	65.3	65.5	65.8	65.8	65.8	65.8	65.8	65.8
58.5	64.6	65.4	66.8	67.4	67.7	68.1	68.1	68.1	68.3	68.6	68.6	68.6	68.6	68.6	68.6
59.1	65.8	66.6	68.0	68.6	68.9	69.3	69.3	69.3	69.5	69.8	69.8	69.8	69.8	69.8	69.8
60.6	68.2	69.0	70.4	71.2	71.5	72.0	72.0	72.0	72.2	72.5	72.5	72.5	72.5	72.5	72.5
64.1	72.2	73.4	75.1	76.1	76.4	77.0	77.1	77.5	77.9	78.2	78.2	78.2	78.2	78.2	78.2
64.7	73.5	74.9	76.7	77.8	78.4	79.3	79.4	79.7	80.2	80.6	80.6	80.6	80.6	80.6	80.6
65.7	74.5	76.1	77.9	79.0	79.6	80.5	80.6	80.9	81.3	81.8	81.8	81.8	81.8	81.8	81.8
67.3	76.3	78.1	80.3	81.3	82.2	83.4	83.5	83.8	84.4	84.8	84.8	84.8	84.8	84.8	84.8
67.9	77.1	79.0	81.2	82.3	83.4	84.6	85.0	85.3	85.9	86.3	86.3	86.3	86.3	86.3	86.3
69.3	79.1	81.0	83.5	84.6	85.7	86.8	87.8	88.3	89.0	89.4	89.4	89.4	89.4	89.4	89.4
69.4	79.3	81.7	84.5	85.8	87.3	88.5	89.4	90.0	90.6	91.0	91.0	91.0	91.0	91.0	91.0
69.5	79.5	81.9	84.7	86.0	87.6	88.8	89.8	90.3	90.9	91.4	91.4	91.4	91.4	91.4	91.4
69.6	79.6	82.1	85.0	86.4	88.0	89.5	90.5	91.0	91.7	92.1	92.1	92.1	92.1	92.1	92.1
69.6	79.9	83.0	86.5	87.9	89.5	91.0	92.1	92.7	93.5	94.0	94.0	94.0	94.0	94.0	94.0
69.6	79.9	83.0	86.6	88.2	90.0	91.7	92.9	93.4	94.6	95.4	95.4	95.4	95.4	95.4	95.4
69.6	80.0	83.3	87.1	89.0	90.7	93.1	94.3	94.9	96.4	97.3	97.3	97.3	97.3	97.3	97.3
69.6	80.0	83.4	87.2	89.4	91.2	94.0	95.3	96.2	97.7	98.6	98.6	98.6	98.6	98.6	98.6
69.6	80.0	83.4	87.2	89.4	91.2	94.0	95.3	96.2	97.7	98.9	98.9	98.9	99.2	99.2	99.2
69.6	80.0	83.4	87.2	89.4	91.2	94.0	95.3	96.2	97.7	98.9	99.0	99.0	99.4	99.7	100.0
69.6	80.0	83.4	87.2	89.4	91.2	94.0	95.3	96.2	97.7	98.9	99.0	99.0	99.4	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 927

USAF ETAC 0-14-5 DL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575

GRAND FORKS AFB ND

73-82

DEC

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

2100-2300

39.2	41.1	41.6	42.1	42.1	42.2	42.4	42.4	42.5	42.6	42.6	42.6	42.7	42.7	42.7	42.7
41.3	43.5	44.0	44.6	44.7	44.8	45.0	45.0	45.1	45.2	45.4	45.4	45.5	45.5	45.5	45.5
41.5	43.7	44.2	44.8	44.9	45.0	45.2	45.2	45.3	45.4	45.6	45.6	45.7	45.7	45.7	45.7
41.5	43.7	44.2	44.8	44.9	45.0	45.2	45.2	45.3	45.4	45.6	45.6	45.7	45.7	45.7	45.7
42.4	44.6	45.1	45.6	45.7	45.8	46.1	46.1	46.2	46.3	46.5	46.5	46.6	46.6	46.6	46.6
43.8	46.3	46.5	47.0	47.1	47.2	47.5	47.5	47.6	47.7	47.9	47.9	48.0	48.0	48.0	48.0
49.3	52.0	52.6	53.2	53.3	53.4	53.6	53.6	53.7	53.9	54.2	54.2	54.3	54.3	54.3	54.3
49.8	52.9	53.5	54.0	54.2	54.3	54.5	54.5	54.6	54.8	55.0	55.0	55.1	55.1	55.1	55.1
52.4	55.4	56.1	56.6	56.7	56.9	57.1	57.1	57.2	57.4	57.6	57.6	57.7	57.7	57.7	57.7
53.4	56.6	57.3	57.8	57.9	58.0	58.3	58.3	58.4	58.7	58.9	58.9	59.0	59.0	59.0	59.0
55.2	58.7	59.4	60.0	60.1	60.2	60.4	60.4	60.5	60.8	61.1	61.1	61.2	61.2	61.2	61.2
57.3	60.9	61.7	62.6	62.8	62.9	63.1	63.1	63.2	63.5	63.8	63.8	63.9	63.9	63.9	63.9
57.4	61.4	62.1	63.0	63.2	63.3	63.5	63.5	63.6	64.0	64.2	64.2	64.3	64.3	64.3	64.3
59.3	63.6	64.7	66.0	66.5	66.6	66.8	66.8	66.9	67.2	67.4	67.4	67.5	67.5	67.5	67.5
60.0	64.5	65.7	67.0	67.4	67.5	67.7	67.7	67.9	68.2	68.4	68.4	68.5	68.5	68.5	68.5
62.0	67.1	68.7	70.3	70.9	71.0	71.2	71.2	71.3	71.7	72.0	72.0	72.1	72.1	72.1	72.1
64.7	70.4	72.4	74.4	75.0	75.2	75.4	75.5	75.9	76.5	76.7	76.7	76.8	76.8	76.8	76.8
65.6	72.1	74.5	76.6	77.1	77.7	78.0	78.1	78.5	79.1	79.3	79.3	79.4	79.4	79.4	79.4
66.2	72.9	75.5	77.6	78.1	78.6	79.0	79.1	79.5	80.0	80.3	80.3	80.4	80.4	80.4	80.4
68.5	75.3	78.1	80.2	80.8	81.4	82.1	82.2	82.7	83.3	83.5	83.5	83.6	83.6	83.6	83.6
69.8	76.9	79.7	81.8	82.8	83.5	84.3	84.6	85.1	85.7	85.9	85.9	86.0	86.0	86.0	86.0
70.8	78.4	81.2	83.3	84.4	85.0	86.1	86.4	86.9	87.6	87.9	87.9	88.0	88.0	88.0	88.0
71.3	79.3	82.1	84.3	85.5	86.3	87.6	87.9	88.5	89.1	89.4	89.4	89.5	89.5	89.5	89.5
71.7	80.2	83.4	85.5	86.9	87.7	89.0	89.3	89.9	90.5	90.8	90.8	90.9	90.9	90.9	90.9
72.3	80.5	83.7	86.2	87.9	88.8	90.2	90.5	91.0	91.7	92.0	92.0	92.1	92.1	92.1	92.1
72.3	80.9	84.4	86.8	88.6	89.5	90.9	91.6	92.1	92.8	93.1	93.1	93.2	93.2	93.2	93.2
72.3	80.9	84.4	87.1	89.0	90.0	91.4	92.1	92.7	93.6	94.0	94.0	94.1	94.1	94.1	94.1
72.3	80.9	84.7	87.5	89.9	90.9	92.6	93.5	94.2	95.7	96.0	96.0	96.2	96.2	96.2	96.2
72.3	80.9	84.8	87.9	90.5	91.6	93.3	94.4	95.4	97.4	97.7	97.7	98.4	98.4	98.4	98.4
72.3	80.9	84.8	87.9	90.5	91.6	93.3	94.4	95.5	97.6	98.0	98.0	98.7	99.0	99.1	99.1
72.3	80.9	84.8	87.9	90.5	91.6	93.3	94.5	95.6	97.8	98.2	98.3	99.0	99.5	99.9	100.0
72.3	80.9	84.8	87.9	90.5	91.6	93.3	94.5	95.6	97.8	98.2	98.3	99.0	99.5	99.9	100.0

TOTAL NUMBER OF OBSERVATIONS 927

CEILING VERSUS VISIBILITY

73-82

PIC

ALL

40.0	42.5	43.0	43.4	43.8	43.9	44.0	44.1	44.1	44.2	44.2	44.2	44.2	44.2	44.3	44.3
43.0	46.0	46.5	46.9	47.3	47.5	47.6	47.6	47.7	47.8	47.9	47.9	47.9	47.9	47.9	47.9
43.3	46.2	46.7	47.1	47.6	47.7	47.8	47.9	47.9	48.0	48.1	48.1	48.1	48.1	48.1	48.2
43.3	46.2	46.7	47.2	47.6	47.7	47.9	47.9	48.0	48.0	48.2	48.2	48.2	48.2	48.2	48.2
43.9	46.9	47.4	47.8	48.3	48.4	48.5	48.6	48.6	48.7	48.8	48.8	48.8	48.8	48.8	48.9
45.0	48.0	48.6	49.0	49.5	49.6	49.7	49.8	49.9	49.9	50.1	50.1	50.1	50.1	50.1	50.1
49.0	52.5	53.1	53.6	54.1	54.2	54.4	54.4	54.5	54.5	54.8	54.8	54.8	54.8	54.8	54.8
49.7	53.3	54.1	54.5	55.0	55.1	55.3	55.3	55.4	55.5	55.7	55.7	55.7	55.7	55.7	55.7
52.0	56.0	56.7	57.3	57.8	58.0	58.2	58.2	58.3	58.5	58.6	58.7	58.7	58.7	58.7	58.7
53.2	57.5	58.2	58.8	59.4	59.6	59.8	59.9	60.0	60.2	60.3	60.3	60.3	60.3	60.3	60.4
54.6	59.4	60.2	60.9	61.6	61.8	62.1	62.2	62.3	62.5	62.6	62.6	62.7	62.7	62.7	62.7
56.7	61.9	63.0	63.9	64.7	64.9	65.3	65.4	65.5	65.7	65.9	65.9	65.9	65.9	65.9	66.0
57.0	62.5	63.6	64.4	65.3	65.5	65.9	66.0	66.1	66.3	66.4	66.5	66.5	66.5	66.5	66.5
58.7	64.6	66.1	67.1	68.3	68.5	69.0	69.2	69.3	69.6	69.7	69.8	69.8	69.8	69.8	69.8
59.4	65.6	67.1	68.2	69.4	69.7	70.2	70.3	70.4	70.8	70.9	70.9	71.0	71.0	71.0	71.0
61.0	67.7	69.3	70.6	71.9	72.1	72.7	72.8	72.9	73.3	73.4	73.5	73.5	73.5	73.5	73.6
62.7	70.0	71.9	73.5	75.0	75.3	75.9	76.1	76.3	76.8	76.9	77.0	77.0	77.0	77.0	77.0
64.0	71.9	74.1	75.9	77.5	78.0	78.7	78.9	79.1	79.6	79.8	79.8	79.9	79.9	79.9	79.9
64.4	72.5	74.8	76.6	78.2	78.7	79.4	79.7	79.9	80.4	80.6	80.6	80.7	80.7	80.7	80.7
65.8	74.4	76.8	78.7	80.5	81.1	82.1	82.4	82.6	83.2	83.4	83.5	83.5	83.5	83.5	83.6
66.4	76.0	78.5	80.5	82.5	83.1	84.3	84.8	85.0	85.7	86.0	86.0	86.1	86.1	86.1	86.1
67.6	77.3	79.9	82.1	84.1	84.8	86.2	86.7	87.0	87.8	88.1	88.1	88.2	88.3	88.3	88.3
67.9	77.8	80.5	83.0	85.1	85.9	87.4	88.0	88.3	89.1	89.4	89.4	89.6	89.7	89.7	89.7
68.2	78.2	81.2	83.8	86.1	86.9	88.4	89.1	89.4	90.2	90.5	90.6	90.7	90.8	90.9	90.9
68.3	78.5	81.6	84.4	87.0	87.8	89.5	90.2	90.6	91.5	91.8	91.8	92.1	92.2	92.2	92.3
68.4	78.7	82.1	85.2	88.0	88.8	90.6	91.4	91.8	92.7	93.0	93.1	93.4	93.4	93.5	93.5
68.5	78.8	82.2	85.5	88.5	89.4	91.3	92.3	92.7	93.8	94.2	94.2	94.6	94.6	94.7	94.8
68.5	79.1	82.6	86.0	89.2	90.2	92.3	93.5	94.0	95.3	95.8					

TOTAL NUMBER OF OBSERVATIONS 7434

SAFE AND SOUND. A PREVIOUSLY UNPUBLISHED AND UNRECORDED

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AFW WEATHER SERVICE/MAC

CEILING VERSUS VISIBILITY

727575 GRAND FORKS AFB ND

73-82

ALL

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

ALL

50.6	52.8	53.2	53.4	53.7	53.8	53.9	53.9	54.7	54.0	54.1	54.1	54.1	54.1	54.2	54.2
55.4	58.0	58.4	58.7	59.0	59.1	59.2	59.3	59.3	59.4	59.4	59.4	59.5	59.5	59.5	59.5
55.7	58.2	59.7	58.9	59.3	59.4	59.5	59.6	59.6	59.7	59.7	59.7	59.8	59.8	59.8	59.8
55.8	58.4	58.8	59.1	59.5	59.5	59.6	59.7	59.7	59.8	59.9	59.9	59.9	59.9	60.0	60.0
56.7	59.3	59.8	60.0	60.4	60.4	60.6	60.6	60.7	60.8	60.8	60.8	60.8	60.9	60.9	60.9
58.1	60.8	61.3	61.6	61.9	62.0	62.1	62.2	62.2	62.3	62.3	62.4	62.4	62.4	62.4	62.5
61.6	64.6	65.2	65.5	65.9	65.9	66.1	66.1	66.2	66.3	66.3	66.3	66.4	66.4	66.4	66.4
62.1	65.2	65.8	66.1	66.5	66.5	66.7	66.8	66.8	66.9	66.9	66.9	67.0	67.0	67.0	67.0
64.5	67.9	68.5	68.8	69.3	69.3	69.5	69.6	69.6	69.7	69.8	69.8	69.8	69.8	69.9	69.9
65.7	69.2	69.8	70.2	70.7	70.8	70.9	71.0	71.1	71.2	71.2	71.2	71.3	71.3	71.3	71.3
66.9	70.6	71.3	71.7	72.2	72.3	72.5	72.6	72.6	72.7	72.8	72.8	72.8	72.8	72.9	72.9
68.9	73.0	73.7	74.2	74.8	74.9	75.1	75.2	75.2	75.4	75.4	75.4	75.5	75.5	75.5	75.5
69.5	73.6	74.4	74.9	75.5	75.6	75.8	75.9	76.0	76.1	76.1	76.1	76.2	76.2	76.2	76.2
71.7	76.4	77.2	77.8	78.6	78.7	78.9	79.1	79.1	79.3	79.3	79.3	79.4	79.4	79.4	79.4
72.7	77.5	78.4	79.0	79.8	79.9	80.2	80.4	80.4	80.5	80.6	80.6	80.7	80.7	80.7	80.7
74.6	79.8	80.8	81.5	82.4	82.6	82.9	83.0	83.1	83.3	83.3	83.3	83.4	83.4	83.4	83.4
76.2	81.7	82.9	83.6	84.6	84.8	85.2	85.4	85.5	85.7	85.7	85.7	85.8	85.8	85.9	85.9
77.7	83.7	84.9	85.8	86.9	87.2	87.6	87.9	87.9	88.2	88.2	88.3	88.3	88.4	88.4	88.4
78.7	84.1	85.4	86.3	87.4	87.7	88.2	88.4	88.5	88.7	88.8	88.8	88.9	88.9	88.9	88.9
78.9	85.4	86.8	87.8	89.0	89.3	89.9	90.2	90.3	90.5	90.6	90.6	90.7	90.8	90.8	90.8
79.8	86.6	88.2	89.2	90.5	90.9	91.6	91.9	92.0	92.3	92.4	92.5	92.6	92.6	92.6	92.6
80.2	87.4	89.0	90.2	91.6	92.0	92.8	93.1	93.2	93.6	93.7	93.8	93.9	93.9	94.0	94.0
80.4	87.8	89.5	90.7	92.2	92.6	93.4	93.9	94.0	94.4	94.5	94.5	94.7	94.7	94.8	94.8
80.6	88.1	89.9	91.1	92.7	93.1	94.0	94.4	94.6	95.0	95.2	95.2	95.4	95.4	95.5	95.5
80.7	88.3	90.2	91.5	93.2	93.6	94.5	95.0	95.2	95.7	95.9	95.9	96.1	96.1	96.2	96.2
80.8	88.5	90.4	91.8	93.6	94.1	95.1	95.6	95.8	96.3	96.6	96.6	96.8	96.8	96.9	96.9
80.8	88.7	90.7	92.1	94.0	94.6	95.6	96.3	96.5	97.1	97.3	97.4	97.6	97.7	97.8	97.8
80.9	88.8	90.9	92.4	94.4	95.0	96.2	96.9	97.2	97.8	98.1	98.2	98.4	98.5	98.6	98.6
80.9	88.8	90.9	92.4	94.5	95.1	96.4	97.2	97.5	98.2	98.6	98.7	99.0	99.1	99.2	99.2
80.9	88.8	90.9	92.5	94.5	95.1	96.5	97.3	97.6	98.4	98.8	98.9	99.3	99.3	99.5	99.6
80.9	88.8	90.9	92.5	94.5	95.1	96.5	97.3	97.6	98.4	98.8	98.9	99.3	99.4	99.7	99.9
80.9	88.8	90.9	92.5	94.5	95.1	96.5	97.3	97.6	98.4	98.8	98.9	99.3	99.4	99.7	100.0

TOTAL NUMBER OF OBSERVATIONS 87633

TOTAL SKY COVER

FOR AIRWAYS STATIONS THE SYMBOLS OF CLEAR, SCATTERED, BROKEN,
OVERCAST, & OBSCURED WERE USED AS INPUT FOR THE TOTAL SKY COVER.

CLEAR WAS CONVERTED TO 0/10

SCATTERED WAS CONVERTED TO 3/10

BROKEN WAS CONVERTED TO 9/10

OVERCAST WAS CONVERTED TO 10/10

OBSCURED WAS CONVERTED TO 10/10

SKY COVER

73-8:

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SECTION

STATION NAME

850

4. 2. 2.

2

3

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AFW WEATHER SERVICE/MAC

SKY COVER

727575 GRAND FORKS AFB ND

73-62

FEB

STATION

STATION NAME

PERIOD

DATE

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
FEB	00-02	27.8			17.7						11.2	41.4	5.7	643
	03-05	28.9			16.7						15.1	39.3	5.8	645
	06-08	16.9			26.0						16.2	40.9	5.3	646
	09-11	9.5			25.3						18.3	45.9	7.0	643
	12-14	8.7			22.1						21.2	48.1	7.4	647
	15-17	8.6			24.4						21.1	45.9	7.2	639
	18-20	13.5			31.0						16.0	39.5	6.3	644
	21-23	27.2			20.5						11.7	40.6	5.7	645
TOTALS		17.9			23.1						16.4	42.7	6.4	6745

USAFETAC

FORM
JUL 64 0-9-5 (OL A)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

SKY COVER

73-82

MAG

STATION

STAT ON NAME

DE P. 26

1990

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NUMBER	
		0	1	2	3	4	5	6	7	8	9			10
MAR	00-02	26.6			17.3						12.1	42.0	5.8	929
	3-05	25.2			17.3						14.2	43.3	5.1	929
	06-08	13.4			26.2						16.3	44.2	6.7	928
	09-11	9.6			26.1						17.2	47.1	7.0	927
	12-14	8.5			24.3						19.9	47.3	7.2	929
	15-17	7.2			24.4						22.2	46.2	7.3	930
	18-20	8.9			32.2						19.9	40.0	5.7	930
	21-23	25.0			25.5						14.2	35.3	5.6	929
TOTALS		15.8			24.2						16.9	43.2	6.6	7431

SKY COVER

73-82

402

STATION

STATION NAME

PEP-OD

4. 2000

MONTH	HOURS (LST.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
APR	00-02	31.8			11.1						12.7	34.5	5.7	893
	03-05	27.9			23.6						11.5	37.0	5.4	893
	06-08	15.4			25.1						20.5	39.0	6.5	894
	09-11	13.0			24.2						19.6	43.2	6.8	898
	12-14	10.2			23.4						22.9	43.4	7.1	900
	15-17	7.9			25.4						24.0	39.7	7.3	895
	18-20	6.6			34.8						22.6	36.0	6.7	899
	21-23	24.8			26.6						14.0	34.7	5.5	900
TOTALS		17.2			25.9						18.5	38.4	6.3	7172

SKY COVER

44 Y

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MONTH	HOURS LAST	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
MAY	05-02	27.7			26.4						16.8	29.1	5.2	928
	10-05	18.4			31.4						16.3	32.7	5.8	925
	15-08	11.4			28.2						25.3	35.1	6.6	924
	09-11	9.1			25.5						24.1	38.4	6.9	927
	11-14	6.6			25.6						35.1	37.8	7.3	927
	11-17	4.6			24.4						36.2	34.8	7.5	927
	11-20	5.9			29.6						32.8	31.7	7.0	927
	21-23	15.3			35.2						22.4	27.1	5.8	927
TOTALS		12.4			28.7						25.8	33.3	6.5	7412

21

JUN

73-92

STATION

STATION NAME

PERIOD

4. 2. 2. 2.

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS	
		0	1	2	3	4	5	6	7	8	9			10
JUN	00-02	24.6			36.0						16.9	22.6	4.9	970
	03-05	13.3			37.7						24.3	25.1	5.8	900
	06-08	8.7			32.5						28.0	30.6	6.6	899
	09-11	7.2			33.6						28.1	31.0	6.6	699
	12-14	4.3			35.6						33.0	27.0	6.7	899
	15-17	3.1			37.8						33.2	25.9	6.7	900
	18-20	5.0			43.0						29.8	22.2	6.7	900
	21-23	9.2			46.8						23.2	20.8	5.6	970
TOTALS		9.4			37.8						27.1	25.7	6.1	7197

SKY COVER

73-82

JUL

STATION

STATION NAME

PF 8-00

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MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9	10		
JUL	00-02	37.0			33.0						13.7	16.3	3.9	927
	03-05	25.2			38.4						17.9	19.5	4.6	926
	06-08	16.6			36.5						23.9	22.6	5.5	925
	09-11	13.8			35.3						30.9	20.0	5.8	929
	12-14	7.8			42.6						32.3	17.3	5.9	931
	15-17	8.6			43.7						31.7	16.0	5.8	930
	18-20	11.0			46.8						29.4	12.9	5.3	930
	21-23	19.1			47.5						21.1	12.4	4.6	929
TOTALS		17.4			41.5						25.1	17.0	5.2	7426

SKY COVER

496

44-38861-1

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
AUG	00-02	34.3			33.6						15.1	17.1	4.1	921
	03-05	24.9			34.7						18.2	22.2	4.9	924
	06-08	11.2			35.1						38.2	25.5	6.1	919
	09-11	10.1			36.2						26.0	27.6	6.2	927
	12-14	7.2			37.5						30.4	24.9	6.3	928
	15-17	7.1			41.6						28.9	22.4	6.1	926
	18-20	7.9			44.5						28.7	18.9	5.8	924
	21-23	18.7			44.1						21.0	16.2	4.8	922
TOTALS		15.2			38.4						24.6	21.8	5.5	7391

SKY COVER

358

PERIOD

2. 2. 2.

USAFETAC FORM JUL 64 0-9-5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

SKY COVER

73-62

257

STATION

3A: NAME

618

2000

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER									MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.		
		0	1	2	3	4	5	6	7	8			9	10
JCT	00-02	29.5			1.3						10.4	38.6	5.5	929
	03-05	29.1			22.4						13.4	35.1	5.4	927
	06-08	13.3			31.3						20.2	35.2	6.3	920
	09-11	7.3			27.5						27.5	37.7	7.1	928
	12-14	6.4			28.2						27.8	37.6	7.1	927
	15-17	8.7			24.2						28.6	38.4	7.1	929
	18-20	12.7			27.1						24.2	36.0	5.6	930
	21-23	24.5			19.5						16.0	40.0	6.3	930
TOTALS		16.4			25.2						21.7	37.4	6.4	7420

SKY COVER

404

STATION

STATION NAME

PER 05

$$\overline{M_n} = 100,000$$

MONTH	HOURS LST.	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL NO. OF OBS.	
		0	1	2	3	4	5	6	7	8	9			10
NOV	00-02	25.3			17.8						11.5	45.4	6.1	899
	03-05	25.1			17.5						17.4	44.7	6.1	697
	06-08	16.1			22.2						17.2	44.6	6.7	897
	09-11	6.2			23.6						20.8	47.3	7.3	698
	12-14	15.3			25.2						16.3	48.1	7.0	930
	15-17	7.8			27.8						20.5	43.9	7.1	899
	18-2	12.8			28.6						16.9	41.8	6.6	930
	21-23	21.7			19.4						13.5	45.2	6.3	899
TOTALS		15.9			22.8						16.3	45.7	6.7	7189

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/HAC

SKY COVER

727575 GRAND FORKS AFB ND

73-82

DEC

STATION

STATION NAME

PERIOD

MONTH

PERCENTAGE FREQUENCY OF OCCURRENCE
FROM HOURLY OBSERVATIONS

MONTH	HOURS LST	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER											MEAN TENTHS OF SKY COVER	TOTAL OBSERVATIONS
		0	1	2	3	4	5	6	7	8	9	10		
DEC	10-02	24.3			14.9						12.9	47.9	6.4	927
	13-05	24.0			16.1						11.0	48.9	6.4	930
	16-08	15.7			21.6						14.4	47.3	6.7	93
	19-11	17.3			21.6						19.6	48.1	7.2	930
	12-14	12.1			19.3						19.1	49.5	7.2	927
	15-17	15.2			12.2						19.5	48.1	7.2	927
	18-21	14.7			23.5						12.6	49.2	6.8	924
	21-23	24.0			10.2						14.2	49.6	6.6	924
TOTALS		17.1			13.0						15.4	48.6	6.8	7419

USAFETAC

FORM
JUL 64

0-9-5 (OL A)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GENERAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

SKY COVER

727575 GRAND FORKS AFB ND

73-82

ALL

STATION

STATION NAME

PERIOD

QUANTITY

PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF TENTHS OF TOTAL SKY COVER										MEAN TENTHS OF SKY COVER	TOTAL OBSER- VATIONS	
		0	1	2	3	4	5	6	7	8	9			10
JAN	ALL	23.2			27.6						15.1	41.2	6.1	7379
FEB		17.9			23.1						18.4	42.7	6.4	6745
MAR		15.4			24.2						16.9	43.2	6.6	7431
APR		17.2			25.9						18.5	38.4	6.3	7172
MAY		12.4			26.7						25.8	33.3	6.5	7412
JUN		9.4			37.8						27.1	25.7	6.1	7197
JUL		17.4			40.5						28.1	17.0	6.2	7426
AUG		15.2			36.4						24.6	21.6	6.5	7391
SEP		21.8			31.9						19.4	26.9	6.4	7192
OCT		16.4			25.2						21.0	37.4	6.4	7427
NOV		15.9			22.8						16.3	45.0	6.7	7189
DEC		17.0			20.0						15.4	48.6	6.8	7419
TOTALS		16.6			28.2						20.1	35.1	6.2	67373

USAFETAC

FORM
JUL 64 0-9-5 (OL A)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART E

PSYCHROMETRIC SUMMARIES

In this section are presented various summaries of dry- and wet-bulb temperatures, dew points, and relative humidity. The order and manner of presentations follows:

1. Cumulative percentage frequency of occurrence - derived from daily observations and presented by month and annual for all years combined. These tabulations provide the cumulative percentage frequency to centers of temperature by 5-degree Fahrenheit increments, plus mean temperature, standard deviations, and total number of observations in three separate tables as follows:

- a. Daily maximum temperatures
- b. Daily minimum temperatures
- c. Daily mean temperatures

NOTE: Beginning in January 1964, daily maximum and minimum temperatures are routinely selected from hourly observations recorded on surface observing forms or from automated data collections for all Air Force operated stations. For those stations observing less than 24 hours per day, and where maximum and minimum temperatures are required but not recorded, these are also selected from hourly data from as early as January 1949 and later. Please refer to notations on summary pages and Station History for further information on reporting practices of individual stations.

2. Extreme values - derived from daily observations with the extreme value selected for each year and month of record available. An annual (ALL MONTHS) value is selected when all months for a year have valid extremes. Means and standard deviations are computed for months and annual when four or more values are present for any column. Two tables of daily extremes are prepared:

- a. Extreme maximum temperature
- b. Extreme minimum temperature

NOTE: The following symbols are used in the extreme data blocks:

- (1) * indicates the extreme was selected from a month with one or more days missing.
- (2) # indicates the extreme was selected from a month in which hourly temperatures were available for less than 24 hours for at least one day in the month.

Means, standard deviations and standard deviations do not include measurements for temperature only.

Continued on Reverse

3. Bivariate percentage frequency distribution and computations of dry-bulb versus wet-bulb temperature.

This tabulation is derived from hourly observations and is presented by month and annual, all hours and years combined. The following information is provided:

- a. The main body of the summary consists of a bivariate percentage frequency distribution of wet-bulb depression in 17 classes spread horizontally; by 2-degree intervals of dry-bulb temperature spread vertically. Also provided for each of the dry-bulb intervals is the percentage of observations with dry-bulb and wet-bulb temperature combined; and again for dry-bulb, wet-bulb, and dew-point temperatures separately. Total observations for these four items is also provided in two lines at end of each tabulation table, which may be continued on several pages.

NOTE: A percentage frequency in this table of ".0" represents one or more occurrences amounting to less than .05 percent.

- b. Statistical data for the individual elements of relative humidity, dry-bulb, wet-bulb, and dew-point temperatures are shown in the section at the bottom left of the forms. These consist of the sum of squares ($\sum X^2$), sums of values ($\sum X$), means (\bar{X}), and standard deviations (σ_x). The number of observations used in the computation for each element is also shown.
- c. At the lower right of the form are given the mean number of hours of occurrence for six ranges of dry-bulb, wet-bulb, and dew-point temperatures, and total number of hours possible in the period represented. Mean number of hours is shown to tenths and indicates mean number of hours per year in the annual summary, or mean number of hours per month in the tabulation by month.

NOTE: Wet-bulb temperature data was not reported prior to 1946. Relative humidity usually was not reported prior to 1949, nor subsequent to June 1958; and was computed by machine methods for observations recorded during these periods. All values of dew-point temperature and relative humidity are with respect to water, unless otherwise indicated.

- d. Means and standard deviations - These tabulations are derived from hourly observations and present the mean, standard deviation, and total number of observations for the eight standard 3-hour groups, by month and annual and again at the bottom for all hours combined. Records for all years combined are presented in the following three tables; DRY-BULB TEMPERATURE, WET-BULB TEMPERATURE, and DEW-POINT TEMPERATURE.
5. Cumulative percentage frequency of occurrence of relative humidity - This summary is derived from hourly observations and presents the cumulative percentage frequency of occurrence of relative humidity by increments of 10% classes, plus the mean relative humidity and total number of observations in two tables.
 - a. Table 1 is prepared by month and annual, all years combined, with month being the vertical argument.
 - b. Table 2 is prepared by month by standard 3-hour groups, with the hour groups being the vertical argument and a separate page for each month. All years are also combined for this summary.

GLOBAL CLIMATOLOGY BRANCH
 USAFETAC
 AIR WEATHER SERVICE/MAC
 727575 GRAND FORKS AFB ND
 STATION

DAILY TEMPERATURES

59-82

YEARS

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
 (FROM DAILY OBSERVATIONS)

MAXIMUM

TEMP °F	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
100					.1		.1	.7	.1				.1
95				.1	.4	.7	2.4	3.2	1.0				.7
90					1.4	4.6	13.4	13.5	3.1				2.8
85				.6	6.3	13.5	25.9	27.1	8.1	.5			6.6
80				1.7	13.6	29.0	56.2	47.1	16.0	2.4			13.9
75			.1	3.6	24.5	51.4	80.4	67.9	27.6	5.6			21.8
70			.4	6.7	40.3	72.0	94.2	86.3	42.1	11.8			29.5
65			.8	14.5	55.7	88.7	99.2	94.8	58.6	21.5	1.1		38.2
60			2.4	24.3	71.0	97.0	99.9	98.9	74.6	34.1	2.9		42.1
55		.2	4.3	37.0	82.3	99.4	100.0	100.0	88.2	51.7	6.4	.1	47.6
50			7.6	50.4	90.3	99.9			85.6	66.1	12.5	.7	52.1
45	.1	1.4	13.2	64.8	96.6	100.0			98.6	80.9	20.1	2.0	56.6
40	2.2	4.5	22.4	75.9	98.9				100.0	90.6	30.3	4.8	61.0
35	7.0	11.9	40.0	88.6	99.6					96.6	48.1	12.4	67.2
30	14.0	22.8	57.8	95.7	99.9					99.6	69.2	25.5	73.9
25	22.3	35.6	71.2	98.4	100.0					100.0	81.9	40.3	79.3
20	29.8	47.5	81.1	99.7							89.6	51.5	83.4
15	39.6	57.8	88.5	100.0							94.4	64.8	97.2
10	49.6	68.8	95.1								97.6	75.8	97.7
5	61.1	81.1	99.2								99.3	84.7	93.6
0	73.2	89.1	99.7								99.7	91.1	96.1
-5	84.4	95.0	100.0								100.0	96.8	98.0
-10	92.8	98.1										98.8	99.2
-15	97.9	99.7										99.9	99.8
-20	99.6	99.8										100.0	100.0
-25	100.0	100.0											100.0
MEAN	13.7	17.6	31.2	50.0	65.9	74.3	80.4	77.0	67.7	55.0	34.7	19.5	48.9
S D	15.0	17.1	21.2	28.3	33.6	41.9	54.3	6.9	23.1	33.7	11.7	18.3	26.9
TOTAL OBS	712	640	713	690	713	690	713	713	706	744	720	744	8496

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GLOBAL CLIMATOLOGY BRANCH
 USAFETAC
 AIR WEATHER SERVICE/MAC
 727575 GRAND FORKS AFB ND
 STATION NAME

59-82

YEARS

DAILY TEMPERATURES

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
 (FROM DAILY OBSERVATIONS)

MINIMUM

TEMP °F	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
75						.1		.1					.2
70						.4	1.3	1.0					.2
65					.6	4.2	11.1	6.3	1.6				2.0
60					3.4	16.4	38.7	24.8	4.7	.3			7.4
55				.3	9.5	40.7	67.7	52.0	13.3	.3			15.4
50				1.0	22.4	65.5	88.9	77.8	28.0	3.8			23.6
45				4.2	41.7	85.7	98.0	91.9	50.1	13.7	.4		32.1
40			.4	13.5	62.4	96.5	99.9	98.5	74.4	29.2	2.1		39.0
35	.1		2.4	32.8	79.8	99.6	100.0	99.3	92.2	51.1	5.8	.1	47.0
33	.4	.3	6.5	42.6	86.8	99.7		100.0	95.2	60.5	9.4	.4	50.3
30	.7	1.7	15.4	60.9	94.0	99.9			97.0	73.9	17.8	1.5	55.4
25	1.4	5.2	29.9	80.6	98.2	100.0			99.3	90.1	37.1	6.7	62.6
20	5.3	10.6	40.5	91.3	99.7				100.0	96.5	54.7	14.2	68.0
15	9.7	17.8	51.3	95.8	99.9					98.8	70.1	25.7	72.7
10	16.2	28.0	63.0	98.1						99.7	79.7	38.2	77.1
5	22.9	38.7	72.9	98.8						100.0	88.2	47.7	83.8
0	31.9	50.2	82.6	99.7	100.0						93.3	58.6	84.9
-5	44.1	63.0	91.4	100.0							96.9	70.7	89.0
-10	56.9	75.9	96.1								99.2	81.7	92.6
-15	70.6	86.4	98.3								99.4	90.7	95.5
-20	85.7	93.9	99.7								99.7	96.2	98.0
-25	93.4	97.7	99.9								100.0	98.8	99.2
-30	98.6	99.4										99.9	99.8
-35	100.0	99.8	100.0									100.0	100.0
-40		100.0											100.0
MEAN	-6.2	.2	14.2	30.9	42.6	52.4	57.3	54.6	45.2	34.8	19.2	3.5	29.0
S D	13.913	14.144	13.766	6.530	9.009	7.202	6.035	6.927	8.243	8.429	11.541	14.014	23.815
TOTAL OBS	712	692	713	690	713	690	713	713	706	744	725	744	8498

USAFETAC 0.21 5 (OL A) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC
727575 GRAND FORKS AFB ND
STATION NAME

DAILY TEMPERATURES

59-82

YEARS

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE
(FROM DAILY OBSERVATIONS)

MEAN

TEMP °F	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
85							.1	.7					.1
80					.6	.9	3.5	3.1	.9				.7
75					1.3	7.5	17.8	15.1	3.4				3.6
70				.1	6.0	22.0	46.0	38.4	8.5	.5			10.1
65				.9	15.0	43.0	78.0	63.0	18.4	2.0			18.4
60				2.8	30.4	72.8	95.1	84.9	34.3	5.8			27.1
55			.4	8.0	50.2	93.0	99.4	96.6	57.4	15.9	.4		35.1
50			1.1	18.6	69.0	98.0	100.0	99.6	78.6	31.6	2.1		41.6
45			3.2	33.9	84.6	99.6		100.0	91.9	52.8	5.4		47.7
40		.5	9.1	56.8	95.0	100.0			98.4	73.3	13.3	.3	54.0
35	.6	2.0	18.9	74.5	98.7				99.9	87.6	24.6	2.3	59.0
30	2.7	7.3	34.8	87.7	99.6				100.0	95.7	43.7	8.3	65.2
25	6.9	15.3	47.0	94.8	99.7					98.8	63.7	19.0	70.7
20	14.3	25.8	61.3	98.0	99.9					100.0	77.1	32.3	75.9
15	23.6	36.6	73.5	99.1	100.0						86.2	45.7	80.6
10	31.2	48.4	82.7	99.9							92.5	56.2	84.4
5	41.4	61.3	91.4	100.0							96.9	67.3	88.3
0	52.7	73.1	95.9								98.6	79.3	91.7
-5	64.7	83.8	99.4								99.4	88.3	94.7
-10	78.7	92.7	99.9								99.9	94.9	97.2
-15	90.2	96.7	100.0								100.0	98.1	98.8
-20	96.8	98.9										99.5	99.6
-25	99.6	99.8										100.0	100.0
-30	100.0	100.0											100.0
MEAN	2.3	9.1	22.9	40.7	54.5	63.8	69.1	67.0	56.6	45.2	27.2	11.6	39.2
S.D.	14.211	13.759	12.765	9.936	9.548	7.010	5.673	6.992	8.831	9.095	11.330	13.349	25.145
TOTAL OBS	712	640	713	690	713	690	713	713	706	744	720	744	8496

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

EXTREME VALUES

MAXIMUM TEMPERATURE

FROM DAILY OBSERVATIONS

727575 GRAND FORKS AFB ND
STATION STATION NAME

59-82

YEARS

WHOLE DEGREES FAHRENHEIT

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ALL MONTHS
YEAR													
59									*	78	73	43	43
60	35	40	46	70	88	87	98	95	95	85	53	41	98
61	43	40	64	71	85	97	95	102	87	84	62	31	102
62	40	40	36	78	79	84	85	92	86	79	53	52	92
63	42	56	79	80	87	94	96	93	90	85	61	41	96
64	41	42	54	74	100	91	96	95	81	80	63	72	100
65	32	40	40	76	85	83	87	98	70	74	69	45	98
66	16	35	54	64	88	90	88	90	87	81	42	37	90
67	35	38	77	61	86	86	92	94	87	78	58	49	94
68	42	39	62	83	86	97	88	92	87	76	53	39	97
69	33*	30	35	69	94	78	96	96	91	66	56	57	96
70	31	39	37	68	92	99	97	95	96	85	54	34	99
71	38	41	54	75	82	85	89	94	92	68	46	33	94
72	41	37	51	64	90	93	90	96	81	72	50	37	96
73	44	43	55	75	83	92	95	95	79	74	55	35	95
74	28	38	40	78	78	92	96	91	89	80	55	49	96
75	*	37	37	52	59	82	85	99	89	84	74	38	99
76	37	47	50	75	87	91	94	101	97	84	61	42	101
77	33	47	62	86	88	89	94	84	73	75	59	34	94
78	30	32	57	72	85	88	96	100	101	76	71	30	101
79	23	34	35	60	85	92	90	89	94	69	52	50	94
80	41	32	49	99	97	93	101	93	93	82	61	45	101
81	45	48	65	82	85	81	96	93	90	68	65	38	96
82	33	43	46	84	82	82	89	93	91	71	52	51	93
MEAN	35.6	39.9	52.0	74.0	86.7	89.2	93.3	93.9	88.1	77.2	57.0	41.3	96.5
S D	7.359	6.465	11.842	9.460	5.269	5.452	4.281	4.367	7.051	6.331	8.113	7.188	3.298
TOTAL OBS	712	640	713	690	713	690	713	713	706	744	720	744	8498

NOTES * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 0-88-5 (OLA)

(AT LEAST ONE DAY LESS THAN 24 OBS)

GLOBAL CLIMATOLOGY BRANCH
USAF ETAC
AIR WEATHER SERVICE/MAC

EXTREME VALUES

MINIMUM TEMPERATURE

FROM DAILY OBSERVATIONS

727575 GRAND FORKS AFB ND
STATION STATION NAME

59-82

YEARS

WHOLE DEGREES FAHRENHEIT

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ALL MONTHS
YEAR													
59									*	25	15	-6	5
60	-21	-20	-17	14	21	39	45	44	32	22	-7	-22	-22
61	-27	-19	11	11	24	43	46	47	26	16	0	-21	-27
62	-30	-28	-31	11	26	37	44	44	29	16	12	-18	-31
63	-28	-20	-4	16	28	39	49	39	34	25	-4	-30	-37
64	-25	-19	-18	12	29	27	48	33	24	21	-22	-25	-29
65	-33	-21	-15	26	26	41	42	33	23	23	-2	-11	-33
66	-33	-32	-13	22	22	37	51	44	31	17	-8	-21	-34
67	-28	-36	-21	9	2	36	39	33	24	15	-1	-35	-38
68	-35	-18	-3	16	21	41	41	34	35	25	5	-23	-39
69	-28*	-24	-13	7	28	35	46	43	32	17	0	-14	-28
70	-34	-27	-13	0	29	45	49	41	28	21	-7	-25	-34
71	-20	-21	4	15	32	43	44	42	35	22	5	-13	-29
72	-31	-21	-20	12	31	41	44	40	34	13	-2	-19	-31
73	-20	-14	22	18	28	39	42	44	23	29	6	-23	-26
74	-27	-25	-17	12	30	44	48	42	25	24	9	-1	-27
75	*	-15	-17	-11	-3	31	41	45	44	37	26	-4	-18
76	-20	-11	-10	23	20	38	45	44	24	7	-12	-23	-28
77	-30	-19	-2	17	29	44	45	40	35	21	-17	-29	-37
78	-25	-24	-16	20	30	38	44	41	38	23	-9	-16	-25
79	-25	-29	-10	-1	28	43	47	36	34	17	6	-9	-29
80	-15	-17	-16	21	27	35	47	45	29	19	11	-14	-18
81	-12	-18	4	16	24	44	46	44	31	18	15	-12	-14
82	-27	-23	-3	8	27	39	51	34	34	24	-2	-3	-27
MEAN	-26.9	-21.8	-9.2	13.2	25.8	39.3	45.6	40.5	30.3	19.8	-1.4	-17.8	-28.2
S D	5.462	5.871	11.658	7.568	6.228	4.147	3.312	4.450	4.828	4.931	9.355	9.623	4.928
TOTAL OBS	713	640	713	690	713	690	713	713	706	744	725	744	8498

NOTES * (BASED ON LESS THAN FULL MONTHS)

USAF ETAC FORM 0-88-3 (OLA)

(AT LEAST ONE DAY LESS THAN 24 OBS)

PSYCHROMETRIC SUMMARY

JAN

PAGE 2 0000-0200

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
-28/-29																																		38	
-30/-31																																		31	
-32/-33																																		27	
-34/-35																																		12	
-36/-37																																		7	
-38/-39																																		3	
TOTAL	57.6	41.3	1.1																															927	
																																		927	
											</																								

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

JAN

PAGE 1 0300-0500

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																																		TOTAL D.B. W.B.	TOTAL Dry Bulb Wet Bulb	Dew Point
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31																				
38/ 37			.1															1	1																		
36/ 35		.4																4	4																		
34/ 33		.2																2	2																		
32/ 31		.4																4	4																		
30/ 29	.4	.8																11	11																		
28/ 27	.9	1.4	.1															22	22																		
26/ 25	.4	2.0																23	23																		
24/ 23	.5	1.3																17	17																		
22/ 21	.9	1.5																22	22																		
20/ 19	2.2	2.3																41	41																		
18/ 17	1.4	2.8																39	39																		
16/ 15	1.1	3.3																41	41																		
14/ 13	.2	2.4																24	24																		
12/ 11	1.5	2.2																34	34																		
10/ 9	1.6	2.0																34	34																		
8/ 7	1.4	1.7																29	29																		
6/ 5	1.6	2.5																38	38																		
4/ 3	1.6	2.4																37	37																		
2/ 1	1.5	4.5																56	56																		
0/ -1	3.4	1.7																48	48																		
-2/ -3	2.5	1.9																41	41																		
-4/ -5	3.4	.8																39	39																		
-6/ -7	2.4	.2																24	24																		
-8/ -9	4.8																	45	45																		
-10/ -11	4.3																	40	40																		
-12/ -13	2.5																	23	23																		
-14/ -15	5.8																	54	54																		
-16/ -17	3.5																	33	33																		
-18/ -19	3.9																	36	36																		
-20/ -21	2.5																	23	23																		
-22/ -23	2.5																	23	23																		
-24/ -25	1.3																	12	12																		
-26/ -27	1.1																	10	10																		
-28/ -29																																					
Element (X)	ΣX^2			ΣX			\bar{X}			σ^2			No. Obs.			Mean No. of Hours with Temperature						Total															
Rel. Hum.																≤ 0 F ≤ 32 F ≤ 67 F ≤ 73 F ≤ 80 F ≤ 93 F																					
Dry Bulb																																					
Wet Bulb																																					
Dew Point																																					

USAFETAC FORM 0 26 3 OLA PREVIOUS EDITIONS ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-82

JAN

PAGE 2 0300-0500

[illegible]

PSYCHROMETRIC SUMMARY,

73-82

JAN 1961

PAGE 1 0600-0800

[illegible]

PSYCHROMETRIC SUMMARY

73-82

JAN

PAGE 2 0600-0800

Temp.	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL	
Ft.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point	
-32/-33																																				37	
-34/-35																																				42	
-36/-37																																				16	
-38/-39																																				7	
-42/-43																																				1	
TOTAL	61.8	37.6	.6																															929	930	929	
																									</												

PSYCHROMETRIC SUMMARY

73-82

JAN
1957

PAGE 2 3930-1100

Temp		WET BULB TEMPERATURE DEPRESSION (F)																																TOTAL				TOTAL			
°F		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31																																D.B. W.B. D. B. W.B.				Wet Bulb Dew Point			
-28/-29	.1																																	1	1	1	33				
-30/-31																																					26				
-32/-33																																					18				
-34/-35																																					23				
-36/-37																																					7				
-38/-39																																					3				
-40/-41																																					1				
TOTAL	56.541.4 2.1 .1																																	926	930	926	926				

Element (X)	Σx^2	Σx	\bar{x}	s^2	No. Obs	Mean No. of Hours with Temperature						Total
						50 F	55 F	60 F	65 F	70 F	75 F	
Rel Hum	4608633	63911	69.014	616	926							
Dry Bulb	213568	2102	2.314	993	930	45.9	91.5					93
Wet Bulb	198420	1622	1.814	541	926	46.5	91.9					93
Dew Point	315652	-5330	-5.817	552	926	58.3	92.7					93

AD A131 893

GRAND FORKS AFB NORTH DAKOTA REVISED UNIFORM SUMMARY OF
SURFACE WEATHER O. (U) AIR FORCE ENVIRONMENTAL
TECHNICAL APPLICATIONS CENTER SCOTT A. APR 83

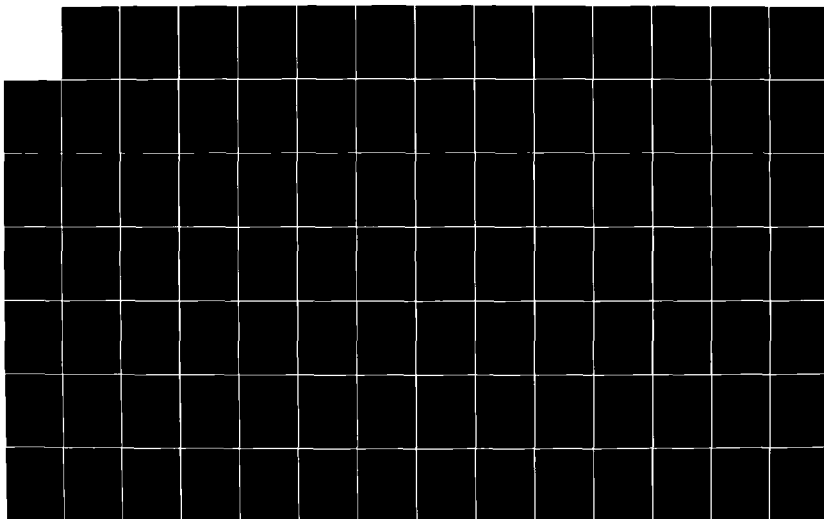
4/6

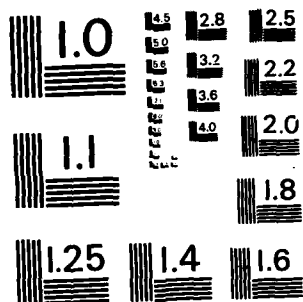
UNCLASSIFIED

USAFETAC/DS/83/011 SBI AD E850 389

F/G 4/2

NI





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

2

YEARS

JAN
MONTH

MOSES 15 5 7 1

USAFETAC FORM 0 26 3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

YEARS

JAN

MONTE

PAGE 2 1200-1400

1230-1400

[illegible]

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

JAN
MONT.

PAGE 1 1500-1700

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL	TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point													
46/ 45				.2														2	2															
44/ 43			.1															1	1															
42/ 41			.6															6	6	2														
40/ 39		.1		.2														3	3	2														
38/ 37		.3	.2															5	5	6														
36/ 35		1.0	.3															12	12	4	4													
34/ 33		1.2	.2															13	13	12	3													
32/ 31		1.5	.5															19	19	21	13													
30/ 29	.3	1.4	.5															21	21	14	19													
28/ 27	.4	1.7																20	20	23	18													
26/ 25	.5	2.4	.2															29	29	27	15													
24/ 23	.8	2.2	.5															32	32	36	16													
22/ 21	.5	1.5	.4															23	23	24	23													
20/ 19	1.4	2.8	.2															41	41	36	31													
18/ 17	1.3	3.1	.1															42	42	41	25													
16/ 15	.4	3.5	.2															39	39	37	28													
14/ 13	.4	3.4																36	36	34	45													
12/ 11	.9	3.0																36	36	39	35													
10/ 9	.5	3.4																37	37	36	23													
8/ 7	.5	2.9																32	32	35	31													
6/ 5	.3	2.6																27	27	36	24													
4/ 3	.6	4.4																47	47	44	23													
2/ 1	.9	5.3																57	57	52	37													
0/ -1	4.1	1.5																52	52	60	29													
-2/ -3	2.4	3.5																55	55	49	45													
-4/ -5	2.9	1.5																41	41	45	43													
-6/ -7	2.8	.8																33	33	40	36													
-8/ -9	5.4																	52	52	58	28													
-10/-11	5.7																	53	53	53	39													
-12/-13	1.4																	13	13	13	21													
-14/-15	2.6																	24	24	24	42													
-16/-17	1.4																	15	15	15	46													
-18/-19	.6																	6	6	6	46													
-20/-21	.4																	4	4	4	43													
Element (X)	Σ X ²		Σ X		X		X		No. Obs.		Mean No. of Hours with Temperature																							
Rel. Hum.											≤ 0 F		≤ 32 F		≤ 47 F		≤ 73 F		≤ 80 F		≤ 93 F		Total											
Dry Bulb																																		
Wet Bulb																																		
Dew Point																																		

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

YEARS

JAN
MONT

PAGE 2 1500-1700
HOURS: 6:31

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL		TOTAL			
	0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10	11 - 12	13 - 14	15 - 16	17 - 18	19 - 20	21 - 22	23 - 24	25 - 26	27 - 28	29 - 30	+ 31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point													
-22/-23	.2																	2	2	2	26													
-24/-25																					32													
-26/-27																					18													
-28/-29																					14													
-30/-31																					5													
-32/-33																					2													
TOTAL	40.2	55.1	4.3	.4														930	930	930	930													

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION

73-82

JAN
MON 1

PAGE 2 1000-2000

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL	TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point												
-26/-27	.2																		2	2	2	22											
-28/-29																						15											
-30/-31																						12											
-32/-33																						14											
-34/-35																						7											
-36/-37																						3											
TOTAL	52.7	46.5	.6	.2															930	930	930	930											
											</																						

PSYCHROMETRIC SUMMARY

YEARS

JAN
MONTH

PAGE 1 2100-2300
HOURS 11-5-11

PSYCHROMETRIC SUMMARY

73-82

JAN
MONTH

PAGE 2 2100-2300
HOURS

669.052

USAFETAC FORM 0-26-3-OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
11 JUN 71

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

JAN

PAGE 1

ALL

HOURS 12.5.1.

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B. W.B.	Dry B.'s	Wet Bulb	Dew Point														
46/ 45			.0	.0														3	3																
44/ 43			.0															2	2																
42/ 41			.1	.1														10	10	3															
40/ 39		.0	.1	.0														14	14	3															
38/ 37		.1	.2															23	23	10															
36/ 35	.0	.4	.1															40	40	32	6														
34/ 33	.0	.6	.1	.0														57	57	44	13														
32/ 31	.1	.9	.2															81	81	74	47														
30/ 29	.4	1.1	.1															119	119	102	82														
28/ 27	.8	1.5	.1															176	176	157	107														
26/ 25	.4	2.0	.1	.0														188	188	154	125														
24/ 23	.9	1.5	.2	.0														192	192	247	104														
22/ 21	1.1	1.5	.1															204	204	228	169														
20/ 19	1.8	3.1	.1															367	367	259	217														
18/ 17	1.2	2.5	.1	.0														283	283	313	243														
16/ 15	.8	2.6	.0															258	258	268	236														
14/ 13	.6	2.8	.0															259	259	221	273														
12/ 11	1.0	2.3																245	245	282	221														
10/ 9	.9	2.7																271	271	273	230														
8/ 7	.9	2.7																272	272	253	212														
6/ 5	.8	2.7																261	261	323	198														
4/ 3	1.2	3.2																327	327	317	196														
2/ 1	1.4	4.5																435	435	366	257														
0/ -1	1.8	1.8																386	386	405	263														
-2/ -3	2.4	2.2																340	340	366	288														
-4/ -5	2.8	1.2																303	303	294	270														
-6/ -7	3.4	.7																305	305	346	252														
-8/ -9	4.8																	353	356	394	265														
-10/-11	4.9																	364	367	364	289														
-12/-13	2.6																	192	192	192	169														
-14/-15	4.0																	299	301	299	290														
-16/-17	3.0																	223	223	223	260														
-18/-19	3.2																	236	236	236	346														
-20/-21	1.9																	140	140	140	313														
Element (X)	Σ x ²					Σ x					Σ					Σ x					Σ x					Σ x									
Rel. Num.																																			
Dry Bulb																																			
Wet Bulb																																			
Dew Point																																			

USAFETAC FORM 71 JUN 71 0-26.3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

JAN 1981

ALL

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
-22/-23	1.2																	89	89	89	290														
-24/-25	.9																	70	70	70	285														
-26/-27	.5																	35	35	35	236														
-28/-29	.1																	5	5	5	195														
-30/-31	.0																	1	1	1	132														
-32/-33																					150														
-34/-35																					115														
-36/-37																					62														
-38/-39																					20														
-40/-41																					1														
-42/-43																					1														
TOTAL	54.0	44.1	1.7	.2															7436		7428														

PSYCHROMETRIC SUMMARY

FEB

PAGE 2 3000-0200

Temp F	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point																		
28/-29	.1																	1	1	1	9																		
30/-31																					2																		
32/-33																					9																		
34/-35																					4																		
40/-41																					3																		
TOTAL	39.857.4	2.4	.4															846	846	846	846																		

Element (X)	$\Sigma X'$	ΣX	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
						≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F	
Rel. Hum.	6598779	61311	72.583.564	846								
Dry Bulb	256673	8157	9.614.515	846	23.6	78.6						84
Wet Bulb	233871	7493	8.914.079	846	25.5	80.1						84
Dew Point	253939	2041	2.417.167	846	36.9	83.5						84

PSYCHROMETRIC SUMMARY

FEB

PAGE 1 0300-C500

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

FEB

PAGE 1 2620-0000

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
42/ 41				.1														1	1																
40/ 39			.5															4	4																
38/ 37		.1	.4	.2														6	6	1															
36/ 35		.8	.5															11	11	5															
34/ 33	.5	1.9																20	20	19	4														
32/ 31	.4	2.6	.2															27	27	22	18														
30/ 29	.2	.6	.1															8	8	27	21														
28/ 27	.1	1.3	.1															13	13	7	19														
26/ 25	.4	2.8																27	27	15	14														
24/ 23	.9	1.8																23	23	38	13														
22/ 21	1.7	2.6																36	36	30	20														
20/ 19	2.9	5.0																62	62	48	34														
18/ 17	1.3	3.8																43	43	49	42														
16/ 15	.8	3.7																38	38	44	31														
14/ 13	.8	1.9																23	23	26	35														
12/ 11	.9	1.5																21	21	24	45														
10/ 9	1.1	2.7																32	32	27	30														
8/ 7	1.5	1.7																44	44	36	23														
6/ 5	.8	3.8																39	39	49	24														
4/ 3	.9	3.3																36	36	37	22														
2/ 1	1.3	4.8																52	52	48	36														
0/ -1	3.0	1.7																39	39	39	34														
-2/ -3	2.4	1.1																29	29	40	31														
-4/ -5	2.1	1.2																28	28	21	34														
-6/ -7	3.0	.2																27	27	37	25														
-8/ -9	4.5																	38	38	38	32														
-10/-11	3.2																	27	27	27	24														
-12/-13	1.3																	11	11	11	28														
-14/-15	2.7																	23	23	23	13														
-16/-17	2.5																	21	21	21	20														
-18/-19	1.5																	13	13	13	25														
-20/-21	2.5																	21	21	21	24														
-22/-23	.4																	3	3	3	31														
-24/-25																					24														
Element (X)	ΣX^2				ΣX				\bar{X}				σ_x				No. Obs.				Mean No. of Hours with Temperature						Total								
Rel. Hum.																					$\leq 0 F$	$\leq 32 F$	$\leq 67 F$	$\leq 73 F$	$\leq 80 F$	$\leq 93 F$									
Dry Bulb																																			
Wet Bulb																																			
Dew Point																																			

USAFETAC FORM 0 25 3 01 A 1-1-73 (10-1-73) (10-1-73) (10-1-73)

2

FEB

1

USAFETAC FORM 0-26 3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

FEB

PAGE 1 0900-1100

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point															
44/ 43				.1																																
40/ 39			1.4	.2																																
38/ 37		.7	.9																																	
36/ 35		1.3	.5																																	
34/ 33	.6	1.5	.6																																	
32/ 31		1.7	.7																																	
30/ 29		1.4	.1																																	
28/ 27	.7	2.8	.2																																	
26/ 25	.4	3.5	.1																																	
24/ 23	.1	2.0																																		
22/ 21	1.2	2.7	.5																																	
20/ 19	1.9	4.4	.1																																	
18/ 17	.6	4.5																																		
16/ 15	.1	3.1	.1																																	
14/ 13		3.0																																		
12/ 11	.7	4.4	.2																																	
10/ 9	.8	3.8																																		
8/ 7	.7	3.4																																		
6/ 5	.7	2.5																																		
4/ 3	1.2	3.5																																		
2/ 1	1.2	4.6																																		
0/ -1	4.7	1.5																																		
-2/ -3	1.7	1.5																																		
-4/ -5	1.1	1.2																																		
-6/ -7	1.5	1.3																																		
-8/ -9	4.1																																			
-10/-11	2.2																																			
-12/-13	1.5																																			
-14/-15	1.9																																			
-16/-17	1.3																																			
-18/-19	1.8																																			
-20/-21	.8																																			
-22/-23	.1																																			
-24/-25																																				
Element (X)	Σx^2			Σx			\bar{x}			s^2			No. Obs.			Mean No. of Hours with Temperature																				
Rel. Hum.																$\leq 0 F$ $\leq 32 F$ $\leq 67 F$ $\leq 73 F$ $\leq 80 F$ $\leq 93 F$ Total																				
Dry Bulb																																				
Wet Bulb																																				
Dew Point																																				

USAFETAC FORM 0-26-3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

FEB
MONTH

HOURS: 10:00 A.M. - 5:00 P.M.

USAFETAC FORM 0 26-3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
(JUN 71)

PSYCHROMETRIC SUMMARY

727575
STATION

GRAND FORKS AFB ND

73-82

FEB

PAGE 2

1200-1400

[illegible]

PSYCHROMETRIC SUMMARY:

FEB

YEARS

PAGE 1 1500-1700
HOURS (S, S, T, I)

[illegible]

PSYCHROMETRIC SUMMARY

FEB

PAGE 2 1500-1700

[illegible]

2

FEB
MONTH

1800-2000
HOURS S T I

USAFETAC FORM 0 26 3 01A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-82

FEB
MON 14

PAGE 2 1830-2000

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
-24/-25	.2																	2	2	2	12														
-26/-27																					5														
-28/-29																					7														
-30/-31																					4														
-32/-33																					1														
-34/-35																					4														
-36/-37																					1														
TOTAL	28.1	65.4	6.3	.2														846	846	846	846														

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

FEB

PAGE 2 2100-2300

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point																	
-26/-27	.1																	1			1		1	16															
-28/-29																								14															
-30/-31																								4															
-32/-33																								2															
-34/-35																								4															
-36/-37																								1															
-38/-39																								2															
TOTAL	36,259.9	3.8	.1														846			846			846																

Element (X)	ΣX^2	ΣX	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
						$\leq 0^\circ \text{F}$	$+ 32^\circ \text{F}$	$+ 67^\circ \text{F}$	$+ 73^\circ \text{F}$	$+ 80^\circ \text{F}$	$+ 93^\circ \text{F}$	
Rel. Hum.	6629836	61518	72.713.608		846							
Dry Bulb	276191	9257	10.914.387		846	20.8	78.3					84
Wet Bulb	249841	8531	10.113.924		846	21.4	79.7					84
Dew Point	256271	3157	3.717.010		846	35.5	83.0					84

PSYCHROMETRIC SUMMARY

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PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
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PSYCHROMETRIC SUMMARY:

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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PSYCHROMETRIC SUMMARY:

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PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

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PAGE 1 0900-1100

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																																	TOTAL D.B. W.B.	TOTAL Dry Bulb Wet Bulb Dew Point
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31																		
54/ 53							.1											1															1		
52/ 51				.2			.2											4															4		
50/ 49				.1	.1													2															2		
48/ 47				.3	.2	.1												6															6		
46/ 45		.1	.2			.1												10															10	2	
44/ 43	.1		1.2	.4	.1													17															17	4	
42/ 41		.8	1.2	.5	.1	.2												26															26	11	
40/ 39	.1	1.3	1.7	.5	.3													37															37	24	
38/ 37	.1	2.9	1.7	.6	.2													52															52	38	
36/ 35	.4	4.0	2.2	.3	.3													67															67	65	
34/ 33	.8	5.2	1.8	.6														78															78	71	
32/ 31	1.4	3.1	2.4	.8	.1													72															72	83	
30/ 29	.6	1.6	2.5	.3														47															47	52	
28/ 27	.9	2.6	1.1	.2														44															44	50	
26/ 25	.3	3.7	.6	.1														44															44	59	
24/ 23	.4	3.2	.2															36															36	52	
22/ 21	.5	3.0	.5															38															39	43	
20/ 19	1.2	4.4	.2															54															55	45	
18/ 17	.5	3.5																37															37	55	
16/ 15	.4	4.1	.1															43															44	55	
14/ 13	.6	2.2	.1															27															28	48	
12/ 11		2.4																22															22	48	
10/ 9	.5	2.1	.2															26															26	39	
8/ 7	.3	2.8	.1															30															30	40	
6/ 5	.2	2.6																26															26	21	
4/ 3	.2	1.7																18															18	21	
2/ 1	.3	2.1																22															22	22	
0/ -1	1.1	.1																11															11	17	
-2/ -3	.2	.5																7															7	20	
-4/ -5	.2	.5																7															7	17	
-6/ -7	.5																	5															5	24	
-8/ -9	.8																	7															7	17	
-10/ -11	.1																	1															1	8	
-12/ -13	.1																	1															1	6	
Element (X)	Σx^2			Σx			\bar{x}			σ_x			No. Obs.			Mean No. of Hours with Temperature												Total							
Rel. Hum.																≤ 0 F ≤ 32 F ≤ 67 F ≤ 73 F ≤ 80 F ≤ 93 F																			
Dry Bulb																																			
Wet Bulb																																			
Dew Point																																			

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PSYCHROMETRIC SUMMARY

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PAGE 2 0900-1100

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point																		
-14/-15	.1																	1	1	1	9																		
-16/-17																					5																		
-18/-19																					10																		
-20/-21																					1																		
-22/-23																					3																		
-24/-25																					4																		
-28/-29																					1																		
TOTAL	13.3	60.5	18.1	5.6	1.7	.8												930		926																			

PSYCHROMETRIC SUMMARY

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PAGE 2 1200-1400

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B. Dry Bulb	Wet Bulb Dew Point																
-6/-7			.1															1	1	2	17														
-8/-9																					12														
-10/-11																					4														
-12/-13																					10														
-14/-15																					3														
-16/-17																					1														
-20/-21																					2														
-22/-23																					1														
TOTAL	5.752	225.5	9.2	3.0	2.6	1.2	.5	.1											930		927														
																		927		927															

Element (X)	ΣX^2	ΣX	\bar{X}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
						≤ 0 F	+ 32 F	+ 67 F	+ 73 F	+ 80 F	+ 93 F	
Rel. Hum.	4600606	63854	68.918	.777	927							
Dry Bulb	911909	26611	28.612	.726	930	1.1	53.5					93
Wet Bulb	735250	23876	25.811	.398	927	1.1	62.1					93
Dew Point	495500	17724	19.113	.005	927		9.2	81.1				93

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Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL			TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point																
-2/-3			.3															3	3	1	20																
-4/-5			.3															3	3	5	5																
-6/-7																					5																
-8/-9																					8																
-10/-11																					7																
-12/-13																					1																
-14/-15																					2																
-20/-21																					3																
TOTAL	6.045	5.29	7	8.2	5.4	2.6	1.4	.6	.5									926	930		926																

Element (X)	ΣX^2	ΣX	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	4570095	63523	68.6	15.155	926	+ 0 F	+ 32 F	+ 67 F	+ 73 F	+ 80 F	+ 93 F	
Dry Bulb	984263	27939	30.0	12.490	930	.6	49.5					93
Wet Bulb	782834	24932	26.9	10.982	926	.7	59.9					93
Dew Point	522276	18816	20.3	12.300	926	7.2	78.9					93

PSYCHROMETRIC SUMMARY:

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PAGE 1 1800-2000

Temp		WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL			TOTAL		
F		0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point														
60/	59									.2									2	2																	
56/	55					.1													2	2																	
54/	53					.1	.2	.1											4	4																	
52/	51				.1	.1	.2												4	4																	
50/	49			.2		.3	.2												7	7		1															
48/	47			.4	.3	.3	.1	.1											12	12		1															
46/	45		.3	.6	1.1	.6	.1												26	26		5															
44/	43		.4	.5	.9	.2	.2												21	21	14		1														
42/	41		1.1	.9	.8		.2												27	27	24	10															
40/	39	.1	2.1	1.6	.5	.1													41	41	25	11															
38/	37	.4	2.5	1.2	.3	.4													45	45	62	16															
36/	35	.3	5.4	2.8	.1	.3													83	83	44	27															
34/	33	1.3	5.4	2.3	.5														88	88	94	49															
32/	31	1.5	3.5	3.6	.2														81	81	82	110															
30/	29	.1	3.2	3.2	.4														65	65	70	68															
28/	27	1.0	3.5	1.3	.1														54	57	74	53															
26/	25	.1	2.1	.5															25	25	61	48															
24/	23		1.2	.3															14	14	34	33															
22/	21	.3	2.5	1.1															36	36	20	57															
20/	19	1.1	4.5	.3															55	55	37	61															
18/	17	.5	3.2	.3															38	38	60	40															
16/	15	.3	2.8	.1															30	30	31	38															
14/	13	.4	3.1	.1															34	34	29	41															
12/	11	.8	2.3																28	29	35	38															
10/	9	.1	2.4	.4															27	27	24	28															
8/	7	.3	2.7																28	28	30	30															
6/	5		1.2																11	11	25	35															
4/	3	.4	.5																9	9	14	16															
2/	1	.2	1.2																13	13	10	26															
0/	-1	.6	.2																8	8	10	23															
-2/	-3	.																																			

PSYCHROMETRIC SUMMARY

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Element (X)	ΣX^2	ΣX	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature					Total
						+ 0 F	+ 32 F	+ 67 F	+ 73 F	+ 80 F	+ 93 F
Rel Hum	5143605	67843	73.323	6.80	926						
Dry Bulb	824292	25278	27.212	15.3	930	1.6	56.8				93
Wet Bulb	691372	23078	24.911	20.9	926	2.0	65.9				93
Dew Point	498740	17934	19.412	7.96	926	9.0	81.6				93

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USAFETAC FORM C-263 (JLA) (REV. 1-77) (GPO)

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PSYCHROMETRIC SUMMARY

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL			TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point																
2/ 1	.1	.2																3	3	4	3																
0/ -1	.1																	1	1	2	2																
-2/ -3																					5																
-4/ -5																					2																
-6/ -7																					7																
-8/ -9																					2																
-10/-11																					1																
TOTAL	6.9	41.8	29.2	13.3	5.0	1.7	.8	.8	.6									900	900	900	900																

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USAFETAC FORM 0-263 OLA PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

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USAFETAC FORM 0263 OLA 1-1-73

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USAFELAC FORM 0-263 (14-1) (Rev. 1-1-60) (GPO: 1960 O-385041)

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PAGE 2 1800-2000

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point													
18/ 17			.6	.1														6	6	6	28													
16/ 15			.4															4	4	7	17													
14/ 13			.3	.1														4	4	4	11													
12/ 11			.4															4	4	4	11													
10/ 9																				4	13													
8/ 7																					6													
6/ 5																					9													
4/ 3																					5													
2/ 1																					2													
0/ -1																					1													
-2/ -3																					2													
TOTAL	1.9	16.4	23.1	15.1	10.7	9.6	8.2	5.9	3.2	2.2	1.0	1.1	.9	.3	.2		.1	900	900	900	900													
																		900		900														

Element (X)	$\Sigma x'$	Σx	\bar{x}	s_x	No. Obs.	Mean No. of Hours with Temperature							Total
Rel. Hum.	3338242	51608	57.320	530	900	$\leq 0^\circ\text{F}$	$+ 32^\circ\text{F}$	$+ 67^\circ\text{F}$	$+ 73^\circ\text{F}$	$+ 80^\circ\text{F}$	$+ 93^\circ\text{F}$		
Dry Bulb	2096418	41872	46.512	846	900		10.6	6.0	2.6	.9	.1	90	
Wet Bulb	1482743	35551	39.5	9.341	900		17.9					90	
Dew Point	914129	27173	30.210	210	900	.3	53.2					90	

USAFETAC FORM 0263 OF A PREVIOUS EDITION IS OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
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PSYCHROMETRIC SUMMARY

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																																					TOTAL		TOTAL																													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point																																
72/ 71																																			1	1																																	
70/ 69																																		2	2																																		
68/ 67																																		3	3																																		
66/ 65																																		3	3																																		
64/ 63																																		13	13																																		
62/ 61																																		7	7																																		
60/ 59																																		18	18	3																																	
58/ 57																																		16	16		3																																
56/ 55																																		21	21	8																																	
54/ 53																																		25	25	8																																	
52/ 51																																		27	27	16	8																																
50/ 49																																		47	47	23	10																																
48/ 47																																		41	41	46	13																																
46/ 45																																		62	62	43	22																																
44/ 43																																		55	55	54	33																																
42/ 41																																		70	70	67	33																																
40/ 39																																		82	82	71	43																																
38/ 37																																		75	75	89	43																																
36/ 35																																		73	73	76	50																																
34/ 33																																		68	68	95	65																																
32/ 31																																		71	71	78	105																																
30/ 29																																		31	31	69	78																																
28/ 27																																		14	14	48	71																																
26/ 25																																		22	22	27	76																																
24/ 23																																		9	9	18	35																																
22/ 21																																		6	6	14	51																																
20/ 19																																		10	10	9	43																																
18/ 17																																		4	4	10	30																																
16/ 15																																		6	6	4	14																																
14/ 13																																		4	4	6	19																																
12/ 11																																		3	3	4	14																																
10/ 9																																		6	6	4	8																																
8/ 7																																		4	4	7	11																																
6/ 5																																		1	1	3	4																																
Element (X)	Σ X ²					Σ X					Σ					Σ					Σ					Σ					Σ					Σ																																	
Rel. Hum.																																																																					
Dry Bulb																																																																					
Wet Bulb																																																																					
Dew Point																																																																					
																																			Mean No. of Hours with Temperature																																		
																																			- 0 F - 32 F - 67 F - 73 F - 80 F - 93 F																																		
																																			Total																																		

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PSYCHROMETRIC SUMMARY:

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																												TOTAL			TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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GLOBAL CLIMATOLOGY BRANCH
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Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																																		TOTAL		TOTAL	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point		
28/ 27	.2	1.7	.7	.1																													194	194	379	576		
26/ 25	.0	1.1	.9	.0																													153	153	273	615		
24/ 23		.6	.4																														75	75	151	382		
22/ 21		.5	.6																														76	76	103	433		
20/ 19		.6	.3	.0																													67	67	71	434		
18/ 17		.4	.2																														45	45	68	225		
16/ 15		.4	.1																														35	35	50	148		
14/ 13	.0	.4	.0																														34	34	37	118		
12/ 11		.3	.0																														25	25	39	84		
10/ 9		.2	.0																														18	18	22	73		
8/ 7		.3	.0																														21	21	19	61		
6/ 5	.0	.1																															11	11	26	50		
4/ 3		.2																															12	12	7	29		
2/ 1	.0	.2																															13	13	15	35		
0/ -1	.1																																10	10	17	17		
-2/ -3	.0																																1	1	1	17		
-4/ -5																																			19			
-6/ -7																																			24			
-8/ -9																																			9			
-10/ -11																																			4			
-12/ -13																																			2			
-14/ -15																																			4			
-16/ -17																																			2			
TOTAL	4.4	27.4	26.0	13.4	8.4	6.5	4.9	3.3	2.1	1.3	.7	.6	.5	.3	.2	.0	.1															7198	7198	7198	7198			

Element (X)	Σx^2	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	32253051	459743	63.920	.035	7198	< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	
Dry Bulb	13935732	302080	42.013	.222	7198	1.1	163.3	29.4	14.7	5.2	.6	720
Wet Bulb	10359709	263365	36.610	.027	7198	1.8	239.3					720
Dew Point	6835959	208397	29.010	.559	7198	9.8	466.2					720

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PSYCHROMETRIC SUMMARY

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																											TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point									
26/ 25																											45				
24/ 23																											13				
22/ 21																											17				
20/ 19																											22				
18/ 17																											14				
16/ 15																											5				
14/ 13																											3				
12/ 11																											2				
TOTAL	.1	5.1	10.6	11.4	10.0	12.7	12.5	10.6	10.3	7.2	4.0	2.0	1.7	1.1	.3	.2	.1		930						930		930				
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PSYCHROMETRIC SUMMARY

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PSYCHROMETRIC SUMMARY

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Temp. F.	WET BULB TEMPERATURE DEPRESSION (F)																																	TOTAL D.B. W.B.		TOTAL Dry Bulb Wet Bulb Dew Point	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
75/ 77								.1					.2																				3	3			
76/ 75								.1					.3		.1																		5	5			
74/ 73			.3			.1							.4																				8	8			
72/ 71		.3	.1		.7	.2	.1					.2																				15	15				
70/ 69		.2	.6	.3	.2	.7																										18	18				
68/ 67		.6	.8	.2	1.2	1.0						.4																				38	38				
66/ 65		1.0	.6	.7	1.2	.4					.7																					41	41				
64/ 63	.2	1.6	1.1	.9	1.6	1.0																										57	57				
62/ 61	.6	2.0	2.8	2.3	.8	.2																										78	78				
60/ 59	2.1	1.9	1.3	.8	.4																											59	59				
58/ 57	.4	2.7	3.4	1.7	1.2						.1																					86	86				
56/ 55	.3	4.4	4.7	2.6	1.0																											117	117				
54/ 53	.7	4.4	3.3	2.6	.7	.1																										106	106				
52/ 51	.1	3.7	3.3	1.2	.4	.1																										80	80				
50/ 49	.3	2.1	2.3	2.0	.1																											62	62				
48/ 47	.1	2.6	2.2	1.0																												53	53				
46/ 45		2.0	2.1	.2																												39	39				
44/ 43		.8	.7																													13	13				
42/ 41		.6	.6	.2																												14	14				
40/ 39	.2	.3																														5	5				
38/ 37			.1																													1	1				
36/ 35			.1																													1	1				
34/ 33																																					
32/ 31																																					
30/ 29																																					
28/ 27																																					
TOTAL	3.0	31.9	30.7	18.0	9.7	4.1	2.4	.1																								899	899				

Element (X)	Σx	Σx^2	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature					Total	
Rel. Hum.	5532263	69535	77.313	.093	899	0 F	32 F	67 F	73 F	80 F	93 F	
Dry Bulb	2906544	50700	56.4	7.255	899			8.7	1.6			90
Wet Bulb	2512098	47156	52.5	6.555	899			1.5	.3			90
Dew Point	2211312	44094	49.0	7.356	899		.8	.7				90

Element (X)	ΣX^2	ΣX	\bar{X}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	5532263	69535	77.3	13.093	899	10 F	13 F	67 F	73 F	80 F	93 F	90
Dry Bulb	2906544	50700	56.4	7.255	899			8.7	1.6			90
Wet Bulb	2512098	47156	52.5	6.555	899			1.5	.3			90
Dew Point	2211312	44094	49.0	7.356	899			.8	.7			90

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Temp F	WET BULB TEMPERATURE DEPRESSION (F)																																	TOTAL		TOTAL	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Dew Point		
74/ 73			.3													.2																5	5	2			
72/ 71						.2	.3									.1																6	6	1	3		
70/ 69				.3	.3	.7	.1																									13	13				
68/ 57			.7	.1	.3	.2	.3																									15	15				
66/ 55			1.6	.6	.6	.3	.1																									28	28	15	7		
64/ 63			1.1	1.3	1.2	.7	.2																									41	41	22	13		
62/ 61	.4	1.6	1.7	1.9	.2	.6																										57	57	31	22		
60/ 59	.3	2.4	2.4	2.3	.4																											72	72	40	24		
58/ 57	.6	3.6	2.8	2.2	.7	.3																										91	91	76	45		
56/ 55	1.1	2.8	3.3	2.0	.9																											91	91	91	69		
54/ 53	.4	5.0	4.3	2.3	.4	.2																										115	115	88	59		
52/ 51	.6	4.7	3.8	.8	.1																											89	89	114	94		
50/ 49	.3	3.4	3.2	1.2	.3																											77	77	105	93		
48/ 47	.1	3.2	2.7	.7																												60	60	85	91		
46/ 45	.2	3.7	2.1	.2																												56	56	80	91		
44/ 43		2.8	1.9	.4																												46	46	67	64		
42/ 41	.1	1.7	.3																													19	19	43	80		
40/ 39	.2	.7	.4																													12	12	33	53		
38/ 37	.2	.2	.2																													6	6	11	48		
36/ 35		.1																														1	1	4	26		
34/ 33																																			2	7	
32/ 31																																				9	
30/ 29																																				2	
TOTAL	4.7	39.4	31.6	16.8	5.3	1.9	.3																									900	900	900	900		

Element (X)	Z _{x'}	Z _x	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	5958135	72503	80.611	4.26	900	< 0 F	< 32 F	< 62 F	< 73 F	< 80 F	< 93 F	
Dry Bulb	2680196	48706	54.1	7.023	900			3.9	.5			90
Wet Bulb	2372099	45823	50.9	6.590	900			.3	.2			90
Dew Point	2126186	43250	48.1	7.291	900		1.1	.3				90

Element (X)	Σx^2	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	5958135	72503	80.6	11.426	900	< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	
Dry Bulb	2680196	48706	54.1	7.023	900			3.9	.5			90
Wet Bulb	2372099	45823	50.9	6.590	900			.3	.2			90
Dew Point	2126186	43250	48.1	7.291	900		1.1	.3				90

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PAGE 1 2600-0900

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B.	W.B.	D.B.	W.B.	Dew Point
80/ 79											.1																							1	1		
78/ 77									.3																								3	3			
76/ 75								.2				.1	.1	.1																		5	5				
74/ 73		.3	.1	.1	.6	.3							.1																			14	14	2			
72/ 71			.4	.1	.2	.3	.6					.1																				16	16	2	3		
70/ 69		.1	.8	1.0	.6	.6	.4	.3																								34	34	5			
68/ 67		.2	.6	.6	1.7	.9	.3																									38	38	10	3		
66/ 65		1.0	1.3	1.7	2.3	.8	.3																									67	67	19	11		
64/ 63		1.6	2.0	1.9	1.8	1.4	.2																									80	80	33	17		
62/ 61	.3	3.0	1.9	2.0	1.3	.2	.2																									81	81	52	29		
60/ 59	.3	2.0	3.8	3.9	2.0	.4																										112	112	90	52		
58/ 57	.4	2.9	3.0	2.2	.9	.3																										88	88	100	52		
56/ 55	1.0	3.4	3.9	2.7	.8	.1																										107	107	117	87		
54/ 53	.1	3.1	2.8	1.9	.7																											77	77	127	80		
52/ 51	.2	2.8	3.0	1.1	.4																											68	68	95	114		
50/ 49		2.1	1.8	1.3	.1																											48	48	85	112		
48/ 47	.1	1.8	1.1	.1																												28	28	66	81		
46/ 45	.1	1.3	.4	.3																												20	20	57	89		
44/ 43		.3	.6	.1																												9	9	20	64		
42/ 41	.1		.2																													3	3	13	45		
40/ 39		.1																														1	1	4	26		
38/ 37																																			3	22	
36/ 35																																				8	
34/ 33																																				3	
32/ 31																																				2	
TOTAL	2.8	26.1	27.7	21.0	13.9	5.6	2.2	.7	.1																							900	900	900	900		

Element (X)	Σx^2	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	5303912	68038	75.6	13.357	900	< 30 F	< 32 F	< 34 F	< 36 F	< 38 F	< 40 F	
Dry Bulb	3129837	52717	58.6	6.832	900			11.1	2.3			90
Wet Bulb	2671160	48738	54.2	5.951	900			1.9	.2			90
Dew Point	2336169	45453	50.5	6.728	900			.2	.6			90

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Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL D.B. W.B. Dry Bulb			TOTAL Wet Bulb Dew Point		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
90/ 89																																	1	1			
88/ 87																																	1	1			
86/ 85																																	7	7			
84/ 83																																	9	9			
82/ 81																																	18	18			
80/ 79																																	35	35			
78/ 77																																	34	34			
76/ 75																																	43	43			
74/ 73																																	51	51			
72/ 71																																	57	57			
70/ 69																																	85	85			
68/ 67																																	95	95			
66/ 65																																	104	104			
64/ 63																																	91	92			
62/ 61																																	80	80			
60/ 59																																	41	41			
58/ 57																																	56	56			
56/ 55																																	36	36			
54/ 53																																	28	28			
52/ 51																																	9	9			
50/ 49																																	7	7			
48/ 47																																	6	6			
46/ 45																																	3	3			
44/ 43																																	1	1			
42/ 41																																					
40/ 39																																					
38/ 37																																					
36/ 35																																					
34/ 33																																					
32/ 31																																					
TOTAL	.9	8.1	12.0	17.0	16.6	14.6	11.2	10.1	5.6	2.2	1.1	.3	.1																				898	898			

Element	Z _x	Z _y	X	Y	No. Obs.	Mean No. of Hours with Temperature						Total
Re. Hum.	3644268	55254	61.5	16.509	898	< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	
Dry Bulb	4038746	59846	66.6	7.814	899			43.6	19.9	5.8		90
Wet Bulb	3078069	52321	58.3	5.749	898			7.0	.6			90
Dew Point	2473852	46660	52.0	7.160	898			.1	1.4	.3		90

PSYCHROMETRIC SUMMARY

73-82

JUN

PAGE 2 1800-2000

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

JUN

PAGE 1 2100-2300

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																																	TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point															
82/ 81						.2			.2	.1																							5	5			
80/ 79						.1	.2	.1		.1																							5	5			
78/ 77			.1		.1	.2	.2	.6	.3	.2																							16	16			
76/ 75		.1	.2		.2	.1	.4	.3	.1		.1																						15	15			
74/ 73		.3	.1	.2	.7	.4	.4			.1																							21	21	4	1	
72/ 71		.3	.2	.3	.3	.7	.8	.2	.3																								29	29	9	4	
70/ 69		.2	1.1	.3	1.0	1.7	.9	.6																									52	52	6	6	
68/ 67		.8	1.0	.9	1.2	1.8	.7	.7	.1																								64	64	16	7	
66/ 65	.2	1.1	1.6	1.9	1.9	1.6	.4	.1																									79	79	37	14	
64/ 63	.1	.9	2.0	2.0	1.3	1.3	1.0	.1																									79	79	36	27	
62/ 61		1.9	2.2	1.7	2.4	1.0	.6	.1																									89	89	65	13	
60/ 59	.1	1.8	2.9	2.3	1.8	1.2	.3	.1																									95	95	91	53	
58/ 57	.1	2.6	3.8	2.1	2.0	.7	.1																										102	102	97	47	
56/ 55	.3	2.8	2.4	1.7	1.6	.3																											80	80	134	93	
54/ 53	.6	2.1	1.3	1.9	.8	.2																											62	62	116	103	
52/ 51		1.7	1.4	1.3	.9	.1																											49	49	93	97	
50/ 49		.8	2.1	.7	.1																												33	33	60	91	
48/ 47		.8	.3	.4																													14	14	66	77	
46/ 45				.2	.1																												3	3	40	66	
44/ 43		.3	.2		.1																												6	6	17	50	
42/ 41		.1		.1																													2	2	6	66	
40/ 39																																			2	29	
38/ 37																																		2	2	27	
36/ 35																																		1	1	17	
34/ 33																																				9	
32/ 31																																				1	
30/ 29																																				2	
28/ 27																																				2	
26/ 25																																				2	
TOTAL	1.4	18.3	23.1	18.1	16.7	11.6	6.1	2.9	1.1	.6	.1																						900	900	930	930	

Element (X)	Σx^2	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature					Total
Rel. Hum.	4592432	62754	69.7	15.529	900	50 F	32 F	67 F	73 F	80 F	93 F
Dry Bulb	3907717	54987	61.1	7.322	900			20.7	6.2	7.	
Wet Bulb	2786105	49761	55.3	6.223	900			3.5	4.		
Dew Point	2384088	45622	50.5	7.583	900			3	1.8	1.	

FORM 0 26 3 JUL 64 Revis 1 Edition of 1-1-64 AF 26-10101-1
USAFETAC

PSYCHROMETRIC SUMMARY

73-82

JUN

PAGE 1

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIP WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

JUL

PAGE 1 0000-0200

Temp IF	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B. Dry Bulb	Wet Bulb Dew Point	
84/ 83																																1	1		
82/ 81											.1																					1	1		
80/ 79									.1				.4																			6	6		
78/ 77									.4																							5	5		
76/ 75			.2	.3	.6		.2		.4					.1		.3																21	21		
74/ 73			.2	.2	.5		.1									.2																13	13		
72/ 71			1.1	1.1	.9		.3		.2		.3																					36	36		
70/ 69	.2	1.2	2.3	1.6	1.1		.9		.1																							68	68		
68/ 67	.5	1.5	3.2	.9	1.1		.8		.1		.1																					76	76		
66/ 65	.5	2.8	3.9	2.8	1.3		.3		.1																							109	109		
64/ 63	.4	4.7	5.2	2.9	.5		.2																									130	130		
62/ 61	.2	4.8	3.4	2.8	.5																											110	110		
60/ 59	.3	4.1	4.7	1.0	.5																											99	99		
58/ 57	.3	2.4	3.9	1.5	.5																											80	80		
56/ 55	.2	2.2	2.6	1.4																												59	59		
54/ 53		2.0	2.3	1.0																												49	49		
52/ 51		1.5	1.7	.1																												31	31		
50/ 49		1.6	.5	.1																												21	21		
48/ 47		1.1	3																													13	13		
46/ 45			.2																													2	2		
44/ 43																																			
42/ 41																																			
40/ 39																																			
TOTAL	2.8	31.4	35.8	18.1	6.8	2.9	1.3	1.0																								930	930		

Element (X)	Σx^2	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel Hum.	6054647	74317	79.9	11.170	930	< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	93
Dry Bulb	3644095	57925	62.3	6.457	930			22.7	4.7	.4		93
Wet Bulb	3214287	54397	58.5	5.917	930			9.1	.4			93
Dew Point	2932531	51869	55.8	6.532	930			5.6	.1			93

AD A131 893

GRAND FORKS AFB NORTH DAKOTA REVISED UNIFORM SUMMARY OF
SURFACE WEATHER O..(U) AIR FORCE ENVIRONMENTAL
TECHNICAL APPLICATIONS CENTER SCOTT A.. APR 83

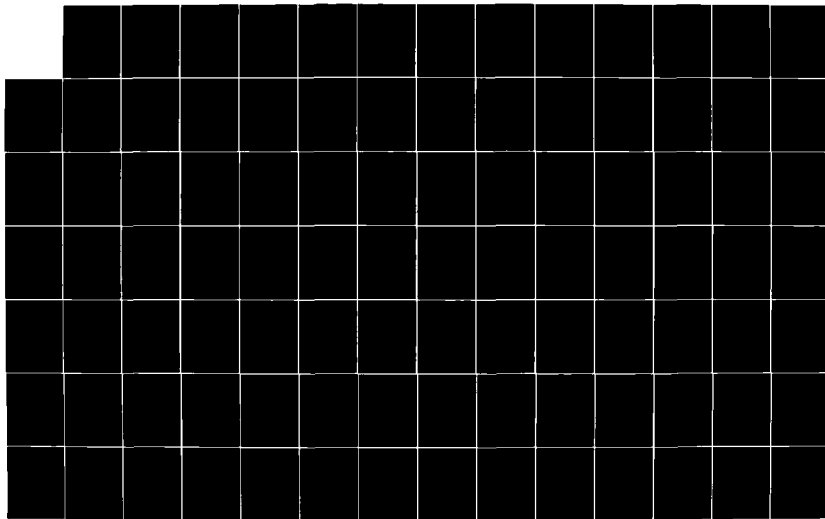
5/6

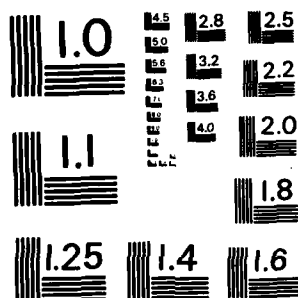
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USAFETAC/DS/R3/011 SBI-AD-E850 389

F/G 4/2

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

YEARS

JUL
MON

PAGE 1 0900-1100
HOURS S. T. 1

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PSYCHROMETRIC SUMMARY:

727575 GRAND FORKS AFB ND
STATION STATION

73-82

JUL
MONT

PAGE 1 1200-1400

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point															
100/ 99														.1		.1		2	2																	
98/ 97														.1				1	1																	
96/ 95											.2	.2		.1				5	5																	
94/ 93									.1	.5	.4	.5	.2					17	17																	
92/ 91							.1	.3	.3	.4	.1	.2	.8					21	21																	
90/ 89							.2	.5	.6	.3	.3	.8	.4	.2				32	32																	
88/ 87					.2	.2	.6	.3	.8	.1	.3	.4	.2	.1	.1			32	32																	
86/ 85					.3	.6	1.1	1.2	1.1	.8	1.0	.5	.1					62	62																	
84/ 83				.2	.5	.5	1.7	2.4	.8	1.4	1.0	.4						83	83																	
82/ 81				.5	.6	.8	2.5	1.2	1.6	2.0	1.2	.3						100	100																	
80/ 79		.2	.3	.8	.8	1.3	1.5	2.2	1.9	.6								89	89	5																
78/ 77	.2	.9	.2	.9	1.5	1.6	2.6	1.3	1.2	.3								99	99	15																
76/ 75	.2	.6	1.3	2.8	2.0	1.7	1.8	.8										107	107	48	11															
74/ 73	.1	.2	1.2	2.0	.9	1.5	.9	1.2	.6	.1								81	81	62	23															
72/ 71		.1	.6	1.1	1.3	1.3	.8	1.0										57	57	72	20															
70/ 69		.6	1.5	1.0	1.1	1.1	.1	.2										52	52	78	34															
68/ 67	.3	.8	.8	1.2	.8	1.0	.2											46	46	101	56															
66/ 65	.1	.3	.6	.2	.5	.2												19	19	142	59															
64/ 63	.3	.3	.2	.8	.3													18	18	133	74															
62/ 61		.2	.1	.1														4	4	109	90															
60/ 59																				80	82															
58/ 57	.1	.2																3	3	43	56															
56/ 55																				34	95															
54/ 53																				8	83															
52/ 51																					58															
50/ 49																					80															
48/ 47																					55															
46/ 45																					23															
44/ 43																					10															
42/ 41																					12															
40/ 39																					6															
38/ 37																					3															
TOTAL	.4	1.2	3.9	7.0	11.0																															

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

YEARS

MONT

PAGE 1 1500-1700
HOURS (a. s. y.)

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USAFETAC FORM 0-26-3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
JUN 71

PSYCHROMETRIC SUMMARY

YEARS

JUL
MONTH

PAGE 2 1500-1700
HOURS (L. S. T.)

[illegible]

PSYCHROMETRIC SUMMARY

73-82

JUL
MON

PAGE 1 1800-2000
HOURS (i.e. S. T.)

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	≥ 31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
98/ 97												.1			.1			1	1																
96/ 95												.1						1	1																
94/ 93									.1			.1	.1					3	3																
92/ 91								.2	.2	.3	.1	.2						10	10																
90/ 89						.2	.2	.3	.2	.1	.2	.2			.1			15	15																
88/ 87						.3	.5	.3	.4	.2	.2	.1	.4	.1				25	25																
86/ 85			.1	.1	.3	.5	1.1	1.0	.3	.3	.3	.1						39	39																
84/ 83			.1	.1	.4	.6	.8	.8	.4	.6	.6	.1						43	43																
82/ 81		.5	.1	1.0	1.0	2.3	1.1	1.2	1.1	.6	.5							87	87																
80/ 79	.1	.3	.6	1.4	1.4	1.0	1.5	1.4	1.0	.9	.1							90	90	5															
78/ 77		.6	.6	1.0	1.4	2.5	2.0	1.2	.9									95	95	18	2														
76/ 75	.1	.5	.8	1.0	2.3	1.4	1.8	2.0	.4									96	96	21	13														
74/ 73	.1	.2	1.5	2.0	2.4	1.8	1.2	1.5	.3									103	103	60	11														
72/ 71	.1	.2	.5	1.5	1.6	2.4	2.6	.9	.4									99	99	59	26														
70/ 69		.1	1.5	1.5	2.2	1.4	1.0	.3	.3									77	77	75	35														
68/ 67		.1	1.4	1.2	1.3	1.4	1.3	.2										64	64	84	53														
66/ 65	.1		1.0	1.7	1.3	.9	.2	.1										49	49	134	56														
64/ 63		.2	.8	.2	.5	.1												17	17	136	61														
62/ 61		.2	.1	.2	.5	.1												11	11	119	94														
60/ 59	.1		.3															4	4	115	87														
58/ 57		.1																1	1	56	86														
56/ 55																				35	97														
54/ 53																				13	64														
52/ 51																					71														
50/ 49																					51														
48/ 47																					58														
46/ 45																					38														
44/ 43																					15														
42/ 41																					6														
40/ 39																					5														
38/ 37																					1														
TOTAL	.2	1.3	7.7	10.5	14.3	16.1	16.0	11.8	10.4	5.7	3.0	1.8	.6	.3					930	930	930														
																		930		930															
Element (X)	Σ x ²		Σ x		x̄		s _x		No. Obs.		Mean No. of Hours with Temperature																								
Rel. Hum.	3144757		52229		56.215		.091		930		≤ 0 F		≤ 32 F		≥ 67 F		≥ 73 F		≥ 80 F		≥ 93 F		Total												
Dry Bulb	5357263		70307		75.6		6.734		930						84.8		60.8		27.9		.5		93												
Wet Bulb	3938973		60309		64.8		5.493		930						32.2		10.4		.3				93												
Dew Point	3177940		53848		57.9		7.729		930						14.0		2.6						93												

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION

73-82

JUL
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PAGE 1 2100-2300
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PSYCHROMETRIC SUMMARY,

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

YEARS

MONTHS

NUMBER OF MONTHS

PAGE 1

ALL

HOURS 11.5 2.1

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

JUL
MONTH

ALL

HOURS 11.5, 1.5, 1.5

[illegible]

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

YEARS

AUG
MONTH

PAGE 1 0000-0200
HOURS S T I

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PSYCHROMETRIC SUMMARY

73-82

YEARS

AUG
MON 11

PAGE 1 0333-0500

USAFETAC FORM 0-26.3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
(JUN 71)

PSYCHROMETRIC SUMMARY

73-82

YEARS

AUG

PAGE 1 1200-1400
HOURS, S.T.

[illegible]

PSYCHROMETRIC SUMMARY

YEARS

AUG
MONTH

PAGE 1 1800-2000
HOURS 11-5, T.T.

[illegible]

PSYCHROMETRIC SUMMARY

73-82

YEARS

AUG
MAY '54

PAGE 1 2100-2300
HOURS 5.00

FORM 0-26-3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
(JUN 71)

PSYCHROMETRIC SUMMARY

73-82

AUG
MON

PAGE 1

ALL
HOURS

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2

AUG

STATION

STATION NAME

YEARS

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MOSES

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USAFETAC FORM 0-26.3 OLA PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE
(JUN 71)

USAFETAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION NAME

73-82

SEP
MON

PAGE 1 0000-0200

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	>31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
76/ 75					.1	.1		.1										3	3																
74/ 73			.3	.3		.3		.1										11	11																
72/ 71		.1	.1	.1	.1	.2		.2										8	8																
70/ 69		.1	.8	.4	.2	.1		.1										16	16	5	1														
68/ 67			.8	.1	.2	.3												13	13	5	4														
66/ 65		.2	.2	.6	.2	.1	.1											13	13	12	3														
64/ 63		.9	.4	1.0		.2												23	23	16	9														
62/ 61		1.0	.4	.6	.4	.2												24	24	16	21														
60/ 59		1.3	1.6	.7	.9	.2												42	42	26	11														
58/ 57	.1	1.2	1.0	1.3	1.2	.6												49	49	31	17														
56/ 55	.1	3.0	1.9	2.1	.9	.3												75	75	39	27														
54/ 53	.1	3.1	4.2	2.9	.8	.6												105	105	47	42														
52/ 51		2.4	3.0	1.6	.4	.2												69	69	81	54														
50/ 49		2.2	3.0	2.1	.3	.1												70	70	94	47														
48/ 47	.2	3.6	2.7	2.4	.1	.1												82	82	84	64														
46/ 45	.6	4.3	2.8	1.1	.6													84	84	90	89														
44/ 43	.2	3.7	2.3	.1	.1	.1												59	59	101	82														
42/ 41		2.6	2.3	.2														46	46	73	78														
40/ 39		2.1	2.2	.4	.1													44	44	57	88														
38/ 37		1.6	.7	1.0	.1													30	30	46	67														
36/ 35		.8		.1														8	8	24	59														
34/ 33		.4	.3	.1														8	8	24	51														
32/ 31		.6	.6															10	10	9	30														
30/ 29		.2	.1															3	3	11	6														
28/ 27		.3																3	3	5	9														
26/ 25		.2																2	2	3	20														
24/ 23																				1	5														
22/ 21																					9														
20/ 19																					4														
18/ 17																					3														
TOTAL	1.3	36.0	31.8	19.3	6.9	3.9	.4	.3											900		900														
																			900		900														

Element (X)	ΣX^2	ΣX	\bar{X}	s_x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	5351578	68528	76.182	1.195	900	≤ 0 F	≤ 32 F	≤ 67 F	≤ 73 F	≤ 80 F	≤ 93 F	
Dry Bulb	2387708	45670	50.7	8.837	900		1.8	5.1	1.4			90
Wet Bulb	2088695	42313	47.0	8.127	900		2.9	1.0				90
Dew Point	1752168	38872	43.2	9.026	900		8.6	.5				92

2

YEARS

PAGE 1 0310-0500

USAFETAC FORM 0263 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

SEP

PAGE 1 0620-0800

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point	
84/ 83																		.1															1	1			
80/ 79																	.1																1	1			
76/ 75							.1																										1	1			
74/ 73						.1																											1	1			
72/ 71				.2				.2	.1																								5	5			
70/ 69				.3				.1	.3																								7	7		3	
68/ 67			.2	.4				.1	.2	.1			.1																				10	10	2	3	
66/ 65	.1	.7	.3	.4				.1	.2																								17	17	6	5	
64/ 63	.1	1.0	.3	.3	.3			.3	.1																								20	20	16	7	
62/ 61		1.0	.6	.4	.7			.1																									25	25	17	10	
60/ 59		.6	1.3	.9	.2	.2		.1																									30	30	15	16	
58/ 57		1.1	2.4	1.4	.6	.1																											51	51	24	11	
56/ 55		2.0	2.6	1.7	.8	.1																											64	64	31	17	
54/ 53	.1	2.4	2.8	1.6	.8																												69	69	60	35	
52/ 51	.2	4.6	4.1	1.1	.4																												94	94	76	45	
50/ 49	.6	4.2	4.6	2.1	.2																												105	105	94	81	
48/ 47	.2	4.3	3.3	1.7	.1																												87	87	103	76	
46/ 45	.1	4.2	3.2	.7	.1																												75	75	85	89	
44/ 43	.1	4.4	3.4	.3	.3																												78	78	106	73	
42/ 41		2.3	2.6	.3																													47	47	75	81	
40/ 39	.2	1.7	2.1	.6																													41	41	59	83	
38/ 37	.2	1.6	1.0	.2																													27	27	46	84	
36/ 35	.2	1.3	.4	.1																													19	19	34	58	
34/ 33		.7	.2																														8	8	25	38	
32/ 31		.1	.1																														2	2	5	36	
30/ 29	.1	.2	.1																														4	4	4	16	
28/ 27	.2	.3	.2																														7	7	4	15	
26/ 25		.2																															2	2	6	6	
24/ 23	.1	.1																															2	2	3	5	
22/ 21																																				1	3
20/ 19																																					3
18/ 17																																					3
16/ 15																																					1
Element (X)	ΣX^2					ΣX					\bar{X}					σ^2					No. Obs.					Mean No. of Hours with Temperature											
Rel. Hum.																										≤ 0 F					≤ 32 F						
Dry Bulb																										≤ 67 F					≤ 73 F						
Wet Bulb																										≤ 80 F					≤ 93 F						
Dew Point																															Total						

21

YEARS

73-82

SEP

0600-383

USAFETAC FORM 0 26 3 OF A PREVIOUS EDITION OF THIS FORM ARE OBSOLETE.

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION

73-82

YEARS

SEP

PAGE 1 0900-1100

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point
88/ 87																.1	.1																2	2		
86/ 85																		.1	.1													2	2			
84/ 83													.3	.1	.2			.1														7	7			
82/ 81										.1	.2	.2	.2			.1																8	8			
80/ 79								.3	.1	.4	.1							.1			.1											10	10			
78/ 77							.1	.1	.2	.2	.1					.1	.2															10	10			
76/ 75				.3	.3	.4	.4	.2	.2	.2						.2						.1										21	21			
74/ 73				.1	.2	.3	.3	.3	.3	.3						.1																16	16		1	
72/ 71		.2	.4	.2	.8	.6	.7	.6	.1																							32	32		6	
70/ 69	.2	.3	.3	.3	.4	1.0	.6	.1																								30	30		11	
68/ 67		.4	.1	.7	.7	1.0	.8																									33	33		17 9	
66/ 65	.3	.2	.7	1.1	.7	1.2	.4	.6																								47	47		22 10	
64/ 63	.1	.6	.9	1.4	1.7	.7	.2																									50	50		22 11	
62/ 61	.8	.6	2.1	2.0	2.4	.7	.4	.1																								82	82		22 12	
60/ 59	.9	.6	2.1	2.1	1.8	.3	.2																									72	72		45 21	
58/ 57	.1	.7	2.1	1.9	1.8	1.1	.2																									71	71		64 25	
56/ 55	.1	1.4	3.1	2.4	2.2	.7	.2																									92	92		79 48	
54/ 53		1.9	2.0	2.7	1.1	1.0	.1																									79	79		125 36	
52/ 51	.2	2.3	2.4	1.8	.9	.2																										71	71		106 69	
50/ 49		1.6	1.8	1.4	1.1	.1																										54	54		105 91	
48/ 47		1.0	.9	1.0	1.6	.1																										41	41		80 84	
46/ 45		.6	1.3	.9	.2																											27	27		61 106	
44/ 43		1.1	1.2	.4																												25	25		51 73	
42/ 41		.1	.4	.3																												8	8		33 80	
40/ 39		.1	.2	.2																												5	5		30 64	
38/ 37				.3																												3	3		10 41	
36/ 35				.2																												2	2		4 39	
34/ 33																																			2 24	
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24/ 23																																			2	
22/ 21																																			1	
Element (X)	Σx^2			Σx			\bar{x}			s_x			No. Obs.			Mean No. of Hours with Temperature										Total										
Rel. Hum.																≤ 0 F + 32 F + 67 F + 73 F + 80 F + 93 F																				
Dry Bulb																																				
Wet Bulb																																				
Dew Point																																				

USAFETAC FORM 0 26 3 OL A PREVIOUS EDITIONS ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-82

SEP

PAGE 2 0900-1100

[illegible]

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION

73-82

YEARS

SEP
MONTH

PAGE 1 1200-1400
HOURS

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	*31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point															
100/ 99																																		1	1		
96/ 95																																		4	4		
94/ 93																																		5	5		
92/ 91																																		5	5		
90/ 89																																		8	8		
88/ 87																																		20	20		
86/ 85																																		12	12		
84/ 83																																		14	14		
82/ 81																																		16	16		
80/ 79																																		22	22		
78/ 77																																		24	24		
76/ 75																																		41	41	1	
74/ 73																																		43	43	9	
72/ 71																																		48	48	12	
70/ 69																																		44	44	19	
68/ 67																																		70	70	28	4
66/ 65																																		58	58	32	8
64/ 63																																		60	60	32	22
62/ 61																																		70	70	60	25
60/ 59																																		48	48	60	22
58/ 57																																		58	58	83	27
56/ 55																																		65	65	103	53
54/ 53																																		53	53	115	49
52/ 51																																		45	45	90	67
50/ 49																																		33	33	64	76
48/ 47																																		12	12	59	80
46/ 45																																		10	10	53	73
44/ 43																																		3	3	35	64
42/ 41																																		6	6	23	67
40/ 39																																		2	2	11	76
38/ 37																																				5	46
36/ 35																																				1	45
34/ 33																																				5	21
32/ 31																																					31
Element (X)	ΣX^2			ΣX			\bar{X}			σ_x			No. Obs.			Mean No. of Hours with Temperature																					
Rel. Hum.																																					
Dry Bulb																																					
Wet Bulb																																					
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USAFETAC FORM 0 26 3 OLA PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

SEP

PAGE 1 1500-1700

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL D.B. W.B.	Dry Bulb	TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Element (X)	Z ₁		Z ₂		Z ₃		Z ₄		Z ₅		Z ₆		Z ₇		Z ₈		Z ₉		Z ₁₀		Z ₁₁		Z ₁₂		Z ₁₃		Z ₁₄		Z ₁₅		Z ₁₆		Z ₁₇		Z ₁₈		Z ₁₉		Z ₂₀		Z ₂₁		Z ₂₂		Z ₂₃		Z ₂₄		Z ₂₅		Z ₂₆		Z ₂₇		Z ₂₈		Z ₂₉		Z ₃₀		Z ₃₁		Z ₃₂		Z ₃₃		Z ₃₄		Z ₃₅		Z ₃₆		Z ₃₇		Z ₃₈		Z ₃₉		Z ₄₀		Z ₄₁		Z ₄₂		Z ₄₃		Z ₄₄		Z ₄₅		Z ₄₆		Z ₄₇		Z ₄₈		Z ₄₉		Z ₅₀		Z ₅₁		Z ₅₂		Z ₅₃		Z ₅₄		Z ₅₅		Z ₅₆		Z ₅₇		Z ₅₈		Z ₅₉		Z ₆₀		Z ₆₁		Z ₆₂		Z ₆₃		Z ₆₄		Z ₆₅		Z ₆₆		Z ₆₇		Z ₆₈		Z ₆₉		Z ₇₀		Z ₇₁		Z ₇₂		Z ₇₃		Z ₇₄		Z ₇₅		Z ₇₆		Z ₇₇		Z ₇₈		Z ₇₉		Z ₈₀		Z ₈₁		Z ₈₂		Z ₈₃		Z ₈₄		Z ₈₅		Z ₈₆		Z ₈₇		Z ₈₈		Z ₈₉		Z ₉₀		Z ₉₁		Z ₉₂		Z ₉₃		Z ₉₄		Z ₉₅		Z ₉₆		Z ₉₇		Z ₉₈		Z ₉₉		Z ₁₀₀		Z ₁₀₁		Z ₁₀₂		Z ₁₀₃		Z ₁₀₄		Z ₁₀₅		Z ₁₀₆		Z ₁₀₇		Z ₁₀₈		Z ₁₀₉		Z ₁₁₀		Z ₁₁₁		Z ₁₁₂		Z ₁₁₃		Z ₁₁₄		Z ₁₁₅		Z ₁₁₆		Z ₁₁₇		Z ₁₁₈		Z ₁₁₉		Z ₁₂₀		Z ₁₂₁		Z ₁₂₂		Z ₁₂₃		Z ₁₂₄		Z ₁₂₅		Z ₁₂₆		Z ₁₂₇		Z ₁₂₈		Z ₁₂₉		Z ₁₃₀		Z ₁₃₁		Z ₁₃₂		Z ₁₃₃		Z ₁₃₄		Z ₁₃₅		Z ₁₃₆		Z ₁₃₇		Z ₁₃₈		Z ₁₃₉		Z ₁₄₀		Z ₁₄₁		Z ₁₄₂		Z ₁₄₃		Z ₁₄₄		Z ₁₄₅		Z ₁₄₆		Z ₁₄₇		Z ₁₄₈		Z ₁₄₉		Z ₁₅₀		Z ₁₅₁		Z ₁₅₂		Z ₁₅₃		Z ₁₅₄		Z ₁₅₅		Z ₁₅₆		Z ₁₅₇		Z ₁₅₈		Z ₁₅₉		Z ₁₆₀		Z ₁₆₁		Z ₁₆₂		Z ₁₆₃		Z ₁₆₄		Z ₁₆₅		Z ₁₆₆		Z ₁₆₇		Z ₁₆₈		Z ₁₆₉		Z ₁₇₀		Z ₁₇₁		Z ₁₇₂		Z ₁₇₃		Z ₁₇₄		Z ₁₇₅		Z ₁₇₆		Z ₁₇₇		Z ₁₇₈		Z ₁₇₉		Z ₁₈₀		Z ₁₈₁		Z ₁₈₂		Z ₁₈₃		Z ₁₈₄		Z ₁₈₅		Z ₁₈₆		Z ₁₈₇		Z ₁₈₈		Z ₁₈₉		Z ₁₉₀		Z ₁₉₁		Z ₁₉₂		Z ₁₉₃		Z ₁₉₄		Z ₁₉₅		Z ₁₉₆		Z ₁₉₇		Z ₁₉₈		Z ₁₉₉		Z ₂₀₀		Z ₂₀₁		Z ₂₀₂		Z ₂₀₃		Z ₂₀₄		Z ₂₀₅		Z ₂₀₆		Z ₂₀₇		Z ₂₀₈		Z ₂₀₉		Z ₂₁₀		Z ₂₁₁		Z ₂₁₂		Z ₂₁₃		Z ₂₁₄		Z ₂₁₅		Z ₂₁₆		Z ₂₁₇		Z ₂₁₈		Z ₂₁₉		Z ₂₂₀		Z ₂₂₁		Z ₂₂₂		Z ₂₂₃		Z ₂₂₄		Z ₂₂₅		Z ₂₂₆		Z ₂₂₇		Z ₂₂₈		Z ₂₂₉		Z ₂₃₀		Z ₂₃₁		Z ₂₃₂		Z ₂₃₃		Z ₂₃₄		Z ₂₃₅		Z ₂₃₆		Z ₂₃₇		Z ₂₃₈		Z ₂₃₉		Z ₂₄₀		Z ₂₄₁		Z ₂₄₂		Z ₂₄₃		Z ₂₄₄		Z ₂₄₅		Z ₂₄₆		Z ₂₄₇		Z ₂₄₈		Z ₂₄₉		Z ₂₅₀		Z ₂₅₁		Z ₂₅₂		Z ₂₅₃		Z ₂₅₄		Z ₂₅₅		Z ₂₅₆		Z ₂₅₇		Z ₂₅₈		Z ₂₅₉		Z ₂₆₀		Z ₂₆₁		Z ₂₆₂		Z ₂₆₃		Z ₂₆₄		Z ₂₆₅		Z ₂₆₆		Z ₂₆₇		Z ₂₆₈		Z ₂₆₉		Z ₂₇₀		Z ₂₇₁		Z ₂₇₂		Z ₂₇₃		Z ₂₇₄		Z ₂₇₅		Z ₂₇₆		Z ₂₇₇		Z ₂₇₈		Z ₂₇₉		Z ₂₈₀		Z ₂₈₁		Z ₂₈₂		Z ₂₈₃		Z ₂₈₄		Z ₂₈₅		Z ₂₈₆		Z ₂₈₇		Z ₂₈₈		Z ₂₈₉		Z ₂₉₀		Z ₂₉₁		Z ₂₉₂		Z ₂₉₃		Z ₂₉₄		Z ₂₉₅		Z ₂₉₆		Z ₂₉₇		Z ₂₉₈		Z ₂₉₉		Z ₃₀₀		Z ₃₀₁		Z ₃₀₂		Z ₃₀₃		Z ₃₀₄		Z ₃₀₅		Z ₃₀₆		Z ₃₀₇		Z ₃₀₈		Z ₃₀₉		Z ₃₁₀		Z ₃₁₁		Z ₃₁₂		Z ₃₁₃		Z ₃₁₄		Z ₃₁₅		Z ₃₁₆		Z ₃₁₇		Z ₃₁₈		Z ₃₁₉		Z ₃₂₀		Z ₃₂₁		Z ₃₂₂		Z ₃₂₃		Z ₃₂₄		Z ₃₂₅		Z ₃₂₆		Z ₃₂₇		Z ₃₂₈		Z ₃₂₉		Z ₃₃₀		Z ₃₃₁		Z ₃₃₂		Z ₃₃₃		Z ₃₃₄		Z ₃₃₅		Z ₃₃₆		Z ₃₃₇		Z ₃₃₈		Z ₃₃₉		Z ₃₄₀		Z ₃₄₁		Z ₃₄₂		Z ₃₄₃		Z ₃₄₄		Z ₃₄₅		Z ₃₄₆		Z ₃₄₇		Z ₃₄₈		Z ₃₄₉		Z ₃₅₀		Z ₃₅₁		Z ₃₅₂		Z ₃₅₃		Z ₃₅₄		Z ₃₅₅		Z ₃₅₆		Z ₃₅₇		Z ₃₅₈		Z ₃₅₉		Z ₃₆₀		Z ₃₆₁		Z ₃₆₂		Z ₃₆₃		Z ₃₆₄		Z ₃₆₅		Z ₃₆₆		Z ₃₆₇		Z ₃₆₈		Z ₃₆₉		Z ₃₇₀		Z ₃₇₁		Z ₃₇₂		Z ₃₇₃		Z ₃₇₄		Z ₃₇₅		Z ₃₇₆		Z ₃₇₇		Z ₃₇₈		Z ₃₇₉		Z ₃₈₀		Z ₃₈₁		Z ₃₈₂		Z ₃₈₃		Z ₃₈₄		Z	

USAFETAC FORM 0 26 3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

73-A2

SEP

PAGE 2 1500-1700
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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

SEP

PAGE 1 1900-2000

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL D.B. W.B.	TOTAL Dry Bulb Wet Bulb Dew Point
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31																
94/ 93												.1					.1													2	2		
92/ 91														.1			.1	.1	.1											3	3		
90/ 89																														1	1		
88/ 87												.1																		2	2		
86/ 85											.1	.1	.1	.2	.1															6	6		
84/ 83										.1	.1	.2	.1	.1	.3	.1													10	10			
82/ 81							.1	.3	.1	.1	.6			.1	.1														13	13			
80/ 79							.7	.2	.1	.1	.1	.1		.1															12	12			
78/ 77					.3	.1	.6	.8	.1	.1			.1																19	19			
76/ 75					.2	.2	.1	.6	.3	.7																			19	19	1		
74/ 73				.1	.2	.6	.4	.1	.9	.2	.2																		25	25	3		
72/ 71				.1	.6	.2	.3	.4	.3	.3																			21	21	5		
70/ 69				.2	.8	.8	1.6	.7	.6	.1																			42	42	13		
68/ 67			.1	.4	.7	.3	1.6	.9	.6																				41	41	17	5	
66/ 65			.3	.8	.6	.4	1.3	.8	.2	.1																			41	41	17	5	
64/ 63		.4	.6	.9	1.2	1.7	1.1	.3	.2																				58	58	29	15	
62/ 61		1.2	.6	1.7	1.7	2.3	1.2	.4																					82	82	36	10	
60/ 59		.7	1.1	1.9	1.7	1.4	.8	.3																					71	71	44	27	
58/ 57		1.1	1.7	1.7	1.7	1.9	.2	.2																					76	76	67	28	
56/ 55		1.8	1.3	1.3	1.7	1.6	.4																						73	73	84	42	
54/ 53	.1	.9	2.6	1.8	2.0	.9	.4	.1																					79	79	123	54	
52/ 51	.1	1.3	2.1	1.2	1.0	.6																							57	57	82	52	
50/ 49	.1	.7	1.0	2.1	.6	.4	.2																						46	46	97	69	
48/ 47		.8	1.8	1.2	1.2	.3																							48	48	78	83	
46/ 45		.3	.7	1.3	.7																								27	27	62	77	
44/ 43			.1	.7	.2																								9	9	58	74	
42/ 41				.3	.4	.1																							8	8	29	77	
40/ 39		.3		.2	.2																								7	7	25	61	
38/ 37				.1																									1	1	16	79	
36/ 35				.1																									1	1	3	41	
34/ 33																															9	17	
32/ 31																														1	27		
30/ 29																														1	20		
28/ 27																															14		
Element (X)	Σ X ¹					Σ X					Σ					Σ					Σ					Σ							
Rel. Hum.																																	
Dry Bulb																																	
Wet Bulb																																	
Dew Point																																	

FORM 0 26 3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PSYCHROMETRIC SUMMARY

SEP

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

SEP

PAGE 1 2100-2300

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point														
82/ 81							.1			.1								2		2																
80/ 79						.1	.1	.1		.1								4		4																
78/ 77					.1	.1	.2		.3									7		7																
76/ 75					.6	.2	.2	.1		.1								11		11																
74/ 73				.4	.2	.2	.2	.1	.1									12		12																
72/ 71				.6	.1	.2	.3	.1										12		12	1															
70/ 69			.2	.4	.2	.3	.2	.1										14		14	7															
68/ 67			.3	.1	.4	.1	.3	.2										14		14	8	1														
66/ 65		.1		1.2	.1	.1	.6	.1										20		20	12	9														
64/ 63		.2	.8	.9	.2	.7	.3											28		28	14	5														
62/ 61		.8	1.0	1.3	.7	.8	.1											42		42	17	12														
60/ 59		1.0	1.1	1.8	1.4	.9	.3	.1										60		60	39	19														
58/ 57		1.4	1.3	2.1	1.7	1.3	.1											72		72	34	18														
56/ 55		2.0	2.8	2.4	1.3	.7												83		83	46	40														
54/ 53		2.3	3.0	1.8	1.7	.7												85		85	77	37														
52/ 51	.2	2.0	3.6	2.0	1.3	.3												85		85	91	57														
50/ 49	.2	1.7	3.8	2.3	.4													76		76	98	56														
48/ 47	.1	2.6	3.3	2.4	.2	.1												79		79	89	74														
46/ 45	.1	2.4	2.6	1.6	.2													62		62	130	84														
44/ 43	.1	1.1	2.3	.7	.7													44		44	85	85														
42/ 41		.9	1.8	1.2														35		35	52	80														
40/ 39		.7	.9	.4	.3													21		21	42	77														
38/ 37		.6	.6	.7														16		16	36	67														
36/ 35		.1	.9															9		9	22	58														
34/ 33		.2	.2															4		4	11	37														
32/ 31																					14	27														
30/ 29		.2																2		2	2	9														
28/ 27		.1																1		1	3	14														
26/ 25																						16														
24/ 23																						14														
22/ 21																						3														
20/ 19																						1														
TOTAL		.8	20.4	30.4	24.4	12.0	6.9	3.2	1.0	.4	.3																						900		900	
Element (X)	Σ x ²			Σ x			Σ			Σ			No. Obs.			Mean No. of Hours with Temperature						Total														
Rel. Hum.	4654639			63579			70.603.478			900			± 0 F			± 32 F			± 67 F			± 73 F														
Dry Bulb	2643165			48101			53.4			8.973			900			.3			7.6			3.6														
Wet Bulb	2173075			43665			48.5			7.793			900			1.9			1.6																	
Dew Point	1785138			39298			43.7			8.778			900			8.4			.1																	

USAFETAC FORM 0-26-3 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

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USAFETAC FORM 026-3 (1-6-64)

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PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
STATION STATION

73-82

OCT

PAGE 1 0600-0800

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	D.B. W.B.	Wet Bulb	Dew Point		
66/ 65					.1																								1	1				
64/ 63					.1		.1																						2	2				
62/ 61		.3				.1																							4	4				
60/ 59						.1																							1	1	3			
58/ 57						.1																							1	1	1	3		
56/ 55		.4	.6	.4	.3	.2																							19	19	1			
54/ 53	.1	1.2	.3	.5	.3	.1																							24	24	6	2		
52/ 51		1.1	1.3	.9	.3																								33	33	22	14		
50/ 49	.3	.8	1.2	1.5	.4																								39	39	27	15		
48/ 47	.2	1.4	1.9	1.5	.6																								53	53	31	18		
46/ 45		2.7	2.7	1.3	.8																								69	69	41	14		
44/ 43		3.1	3.3	.8	.2																								69	69	68	29		
42/ 41		4.4	3.5	2.0	.1																								94	94	67	50		
40/ 39	1.0	4.1	2.7	.3																									75	75	132	64		
38/ 37	.3	5.9	2.4	.3																									83	83	93	73		
36/ 35	.2	4.1	4.0	.5																									82	82	90	92		
34/ 33		4.8	2.5	.1																									69	69	83	84		
32/ 31	.4	4.5	2.3	.1																									68	68	80	113		
30/ 29	.3	3.3	1.1																										44	44	65	72		
28/ 27	.6	1.9	.3																										27	27	54	69		
26/ 25		1.7																											16	16	25	60		
24/ 23		1.1	.2																										12	12	18	31		
22/ 21		1.4																											13	13	13	35		
20/ 19																																		

PSYCHROMETRIC SUMMARY

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PAGE 1 1200-1400

PSYCHROMETRIC SUMMARY:

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PAGE 2 1200-1400

PSYCHROMETRIC SUMMARY,

727575 GRAND FORKS AFB ND
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PSYCHROMETRIC SUMMARY

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PAGE 2 1010-2000

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STATION NAME

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USAFETAC FORM 0263 OL A REV 10-69

PSYCHROMETRIC SUMMARY

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PAGE 2 2100-2300

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PSYCHROMETRIC SUMMARY

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PSYCHROMETRIC SUMMARY,

73-82

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PAGE 2 0300-0500

Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point			
-14/-15																																					6		
-16/-17	.1																																				6		
-18/-19																																					7		
-20/-21																																					1		
-22/-23																																					4		
-24/-25																																					4		
-26/-27																																					2		
-28/-29																																					1		
TOTAL	10.968	214.6	4.4	1.2	.7																													900	900	900			

PSYCHROMETRIC SUMMARY

73-82

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YEARS

USAFETAC FORM 0 26 3 OL A PREVIOUS EDITION OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

73-82

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PAGE 1 3900-1100

Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point														
64/ 63							.2	.1																								3	3			
62/ 61							.1	.1																								2	2			
60/ 59								.1																								1	1			
58/ 57							.2	.1																								3	3			
56/ 55			.1				.2																									3	3			
54/ 53	.1			.2		.2	.2	.2																								7	7	4	1	
52/ 51		.2			.3	.2																										7	7			
50/ 49	.1	.2	.2	.4	.2	.1																										12	12	7	3	
48/ 47	.1	.6	.2	.3	.1	.2																										14	14	8	5	
46/ 45		.1	1.2	.1	.7	.4	.1																									24	24	10	4	
44/ 43		.3	.8	.8	.6	.3																											25	25	14	4
42/ 41		.8	1.0	.3	.4	.1																											24	24	24	3
40/ 39	.1	1.4	1.2	.3	.2																												30	30	19	9
38/ 37		1.1	.9	1.3	.3																												33	33	40	13
36/ 35	.1	2.4	1.8	.3	.1																												43	43	39	33
34/ 33	.2	4.3	2.1	.6																													65	65	52	30
32/ 31	.4	5.7	3.1	.9																													91	91	67	53
30/ 29	1.1	4.5	1.6	.2	.1																												67	67	87	51
28/ 27	.3	5.1	2.6	.1																													73	73	79	58
26/ 25	.6	5.8	.8	.1																													65	65	70	66
24/ 23		2.7	1.0																														33	33	79	55
22/ 21	.3	4.2	.9																														49	49	42	48
20/ 19	.3	4.9	.8																														54	54	43	88
18/ 17	.1	2.1	.4																														24	24	49	64
16/ 15	.2	3.0	.1																														30	30	24	53
14/ 13		2.3	.1																														22	22	26	46
12/ 11	.1	1.7	.1																														17	17	25	30
10/ 9	.2	.8	.1																														10	10	17	19
8/ 7		.9																															8	8	8	22
6/ 5		1.0																															9	9	9	36
4/ 3	.1	1.2																															12	13	13	15
2/ 1		1.6																															14	14	10	15
0/ -1	.6	.3																															8	8	15	12
-2/ -3	.4	.7																															10	10	9	8
Element (X)	Σ X					Σ X					Σ X					Σ X					Σ X					Σ X					Σ X					
Rel. Hum.																																				
Dry Bulb																																				
Wet Bulb																																				
Dew Point																																				

USAFETAC FORM 0 26 3 01 A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
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PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																																		TOTAL D.B. W.B.	TOTAL			
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	Dry Bulb		Wet Bulb		Dew Point																	
-4/-5		.1																1	1	3																	4		
-6/-7		.2																2	2	3																	13		
-8/-9		.1																1	1	1																	9		
-10/-11		.1																1	1	1																	5		
-12/-13																																					4		
-14/-15																																					1		
-16/-17		.1																1	1	1																	4		
-18/-19																																						7	
-20/-21																																						2	
-22/-23																																						4	
-28/-29																																						1	
TOTAL	6,260	121.2	6.1	3.1	1.9	.9	.3	.1										898	899	898																898			
Element (X)	Z _X	Z _X	X	X	No. Obs.	Mean No. of Hours with Temperature																																	
Rel. Hum.	4745692	64072	71.3	13.935	898	≤ 0 F	0-32 F	32-67 F	67-73 F	73-80 F	80-93 F																												
Dry Bulb	830633	24953	27.8	12.398	899	2.9	60.9																																
Wet Bulb	686010	22694	25.3	11.199	898	3.3	68.3																																
Dew Point	478613	17281	19.2	12.761	898	7.9	79.5																																

USAFETAC FORM 0 26 3 01 A PREVIOUS EDITIONS ARE OBSOLETE

PSYCHROMETRIC SUMMARY

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Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL			TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point																
4/ 3			1.1															10	10	11	5																
2/ 1			.8															7	7	11	13																
0/ -1																				3	15																
-2/ -3			.1															1	1		8																
-4/ -5			.1															1	1	1	10																
-6/ -7		.1																1	1	2	7																
-8/ -9																					5																
-10/-11																					5																
-12/-13																					3																
-14/-15																					6																
-16/-17																					3																
-18/-19																					3																
TOTAL	3.3	4.2	2.2	9.6	8.9	5.0	5.7	2.1	1.6	1.0	.4	.2						899		899	899																
																		899		899																	
								</																													

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GLOBAL CLIMATOLOGY BRANCH
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PSYCHROMETRIC SUMMARY

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL		Dew Point
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B. W.B.	Dry Bulb	Wet Bulb																
6/ 5			1.1															10	10	16	21															
4/ 3			1.0															9	9	7	9															
2/ 1			.9															8	8	8	13															
0/ -1			.1															1	1	6	10															
-2/ -3	.1	.2																3	3	3	14															
-4/ -5																					1	14														
-6/ -7																						3														
-8/ -9																							2													
-10/-11																							8													
-12/-13																							3													
-14/-15																								5												
-16/-17																								1												
-18/-19																								4												
TOTAL	3.2	42.6	29.4	9.2	5.1	4.8	3.0	1.2	.7	.4	.1	.2						899	900	899	899															

Element (X)	$\Sigma x'$	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	8069626	58778	65.4	15.886	899	≤ 0 F	0-32 F	32-67 F	67-73 F	73-80 F	80-93 F	
Dry Bulb	1097389	28906	32.1	13.710	900	.4	50.3	.8	.1			90
Wet Bulb	842726	25516	28.4	11.488	899	1.0	59.4					90
Dew Point	532128	18810	20.9	12.422	899	6.4	76.8					90

Element (X)	Z ₁	Z ₂	X	S _x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	4069626	58778	65.4	15.886	899	0 F	32 F	67 F	73 F	80 F	93 F	
Dry Bulb	1097384	28906	32.1	13.710	900	.4	50.3	.8	.1			90
Wet Bulb	842726	25516	28.9	11.488	899	1.0	59.4					90
Dew Point	532128	18810	20.9	12.422	899	6.4	76.8					90

USAFETAC FORM 0 26 3 01 A Previous Editions of this Form are OBSOLETE

PSYCHROMETRIC SUMMARY:

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Temp. F.	WET BULB TEMPERATURE DEPRESSION (F)																														TOTAL			TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	* 31	D.B. W.B. Dry Bulb	Wet Bulb	Dew Point		
-8/-9	.1																																	1	1	1	6
-10/-11																																					6
-12/-13																																					5
-14/-15																																					6
-16/-17																																					8
-18/-19																																					4
-20/-21																																					1
TOTAL	7.059	0.221	2	6.9	2.4	2.4	.	7	.	3																								900	900	900	
																																			900	900	
Element (X)	ΣX^2	ΣX	\bar{X}	s_x	No. Obs.	Mean No. of Hours with Temperature						Total																									
Rel Hum.	4741433	64143	71.313	830	900	+ 0 F	- 32 F	+ 57 F	+ 73 F	+ 80 F	+ 93 F	90																									
Dry Bulb	839953	25107	27.912	959	900	1.9	60.1					90																									
Wet Bulb	693691	22825	25.411	301	900	2.8	69.0					90																									
Dew Point	882651	17391	19.312	770	900	7.1	79.8					90																									

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Temp (F)	WET BULB TEMPERATURE DEPRESSION (F)																																	TOTAL				TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	DB, W.B.	Dry Bulb	Wet Bulb	Dew Point			
-10/-11	.1																																			1	1	1	7		
-12/-13	.1																																			1	1	1	5		
-14/-15																																							6		
-16/-17																																							7		
-18/-19																																							9		
-20/-21																																							3		
-22/-23																																							2		
TOTAL	9.462	9.19	4	3.7	2.7	1.2	.4																													900	900	900	900		

GLOBAL CLIMATOLOGY BRANCH
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PSYCHROMETRIC SUMMARY

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Temp F	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL			TOTAL		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point
6/ 5		.3	.8																														58	58	84	176	
4/ 3		.1	1.1																														90	91	72	164	
2/ 1		.2	1.0																														86	86	98	121	
0/ -1		.4	.3																														52	52	69	88	
-2/ -3		.3	.4																														48	48	54	63	
-4/ -5		.3	.2																														34	34	32	59	
-6/ -7		.5	.1																														38	38	49	57	
-8/ -9		.3																															19	19	24	49	
-10/-11		.1																															9	9	9	61	
-12/-13		.1																															4	4	4	32	
-14/-15		.3																															3	3	3	45	
-16/-17		.3																															2	2	2	39	
-18/-19																																				45	
-20/-21																																				18	
-22/-23																																				18	
-24/-25																																				8	
-26/-27																																				5	
-28/-29																																				2	
TOTAL	7.6	59.1	20.6	6.0	2.8	2.3	.9	.4	.2	.1	.3	.0																					7196	7198	7196	7196	

Element (X)	Σx^2	Σx	\bar{x}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	37925559	512275	71.214	.232	7196	< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	
Dry Bulb	6714428	199580	27.712	.808	7198	20.9	485.5	1.7	.1			720
Wet Bulb	5499290	181106	25.211	.438	7196	24.6	550.1					720
Dew Point	3802532	137328	19.112	.816	7196	58.9	641.0					720

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL	
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	+31	O.B. W.B.	Dry Bulb	Wet Bulb	Dew Point														
-24/-25	.1																	1	1	1	19														
-26/-27	.2																	2	2	2	12														
-28/-29																					7														
-30/-31																					2														
-32/-33																					3														
-34/-35																					2														
-36/-37																					2														
TOTAL	35.4	59.9	4.7															930	930	930	930														

Element (X)	ΣX^2	ΣX	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
						< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	
Rel. Hum.	5129328	67814	72.9	10.091	930							93
Dry Bulb	322534	11596	12.5	13.840	930	21.5	88.4					93
Wet Bulb	291830	10734	11.5	13.445	930	23.4	89.7					93
Dew Point	278397	8865	5.2	16.501	930	33.8	92.3					93

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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL				TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	DB WB	Dry Bulb	Wet Bulb	Dew Point			
-22/-23	.2																																	2	2	2	13		
-24/-25	.2																																	2	2	2	14		
-26/-27																																					11		
-28/-29																																					11		
-30/-31																																					8		
-32/-33																																					8		
-34/-35																																					4		
TOTAL	35.4	61.1	3.5																															930	930	930			

Element (X)	ΣX^2	ΣX	\bar{X}	σ_x	No. Obs.	Mean No. of Hours with Temperature						Total
Rel. Hum.	5074850	67358	72.818	556	930	≤ 0 F	+ 32 F	+ 67 F	+ 73 F	+ 80 F	+ 93 F	93
Dry Bulb	290581	10519	11.313	591	930	23.4	90.1					93
Wet Bulb	264866	9694	10.423	263	930	29.7	91.3					93
Dew Point	266629	3673	3.936	474	930	35.7	92.7					93

PSYCHROMETRIC SUMMARY

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GLOBAL CLIMATOLOGY BRANCH
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PSYCHROMETRIC SUMMARY

727575 GRAND FORKS AFB ND
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Temp F	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL		TOTAL			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	D.B. W.B.	Dry Bulb	Wet Bulb	Dew Point	
-16/-17	.6																																	6	6	6	30
-18/-19	.3																																3	3	3	20	
-20/-21																																				15	
-22/-23																																				14	
-24/-25																																				7	
-26/-27																																				9	
-28/-29																																				3	
-30/-31																																				2	
-32/-33																																				1	
TOTAL	17.8	67.1	12.8	1.7	.2	.2	.1																										930	930	930		

Element (X)	Zx'	Zx	X	%	No. Obs.	Mean No. of Hours with Temperature						Total											
Rel. Hum.	4741704	64960	69.810	.829	930	< 60 F	> 60 F	< 65 F	> 65 F	< 70 F	> 70 F	< 75 F	> 75 F	< 80 F	> 80 F	< 85 F	> 85 F	< 90 F	> 90 F	< 95 F	> 95 F	< 100 F	> 100 F
Dry Bulb	407919	14991	16.113	.378	930	12.7	83.4																93
Wet Bulb	351788	13628	14.712	.795	930	15.4	87.3																93
Dew Point	290087	7127	7.715	.919	930	29.8	92.1																93

Element	Σx^2	Σx	\bar{x}	s^2	No. Obs.	Mean No. of Hours with Temperature						Total
Rel Hum.	47417.04	6496.0	69.814	.829	930	< 0 F	< 32 F	< 67 F	< 73 F	< 80 F	< 93 F	93
Dry Bulb	907919	14991	16.113	.378	930	12.7	83.4					93
Wet Bulb	351788	13628	14.712	.795	930	15.4	87.3					93
Dew Point	290087	7127	7.715	.919	930	29.8	92.1					93

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727575 GRAND FORKS AFB ND
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Temp. (F)	WET BULB TEMPERATURE DEPRESSION (F)																															TOTAL			TOTAL		
	0	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31	D.B.	W.B.	Dry Bulb	Wet Bulb	Dew Point															
-16/-17	.6																	45	45	45	196																
-18/-19	.6																	44	44	44	247																
-20/-21	.3																	22	22	22	177																
-22/-23	.1																	8	8	8	115																
-24/-25	.1																	7	7	7	112																
-26/-27	.1																	6	6	6	87																
-28/-29	.0																	2	2	2	57																
-30/-31																					27																
-32/-33																					32																
-34/-35																					10																
-36/-37																					6																
-38/-39																					5																
TOTAL	29.5	62.3	7.5	.6	.1	.1	.0											7433	7434	7433	7433	7433															

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USAFETAC FORM 0-263 OL A PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

DRY-BULB TEMPERATURES DEG F FROM HOURLY OBSERVATIONS

727575 GRAND FORKS AFB ND

73-82

HR	ST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
00-02	MEAN	2.4	9.6	21.9	36.3	49.0	56.4	52.3	59.3	50.7	41.1	26.0	12.5	35.8
	S.D.	14.979	14.515	12.840	10.054	9.603	7.255	6.457	7.450	8.837	9.211	11.920	13.840	22.681
	TOTAL OBS	927	846	930	900	930	899	930	930	900	930	900	930	10952
03-05	MEAN	1.6	8.7	20.7	34.4	46.5	54.1	60.0	57.0	49.0	39.5	25.2	11.9	34.2
	S.D.	14.857	14.704	12.878	9.583	9.441	7.023	6.526	7.270	8.507	9.027	11.837	13.821	22.123
	TOTAL OBS	930	846	930	900	930	900	930	930	900	929	900	930	10955
05-08	MEAN	.8	7.7	23.2	35.6	50.0	58.6	64.0	59.2	49.7	38.8	24.5	11.3	35.2
	S.D.	15.023	14.868	13.116	10.186	9.417	6.832	6.189	7.015	8.343	8.844	11.745	13.591	23.540
	TOTAL OBS	930	846	930	899	930	900	930	930	900	930	900	930	10955
08-11	MEAN	2.3	10.2	24.2	43.4	58.8	66.6	73.0	68.5	58.7	45.5	27.8	12.7	41.1
	S.D.	14.993	14.798	12.900	12.506	11.055	7.814	6.480	7.389	9.248	9.140	12.398	13.459	26.356
	TOTAL OBS	930	846	930	900	930	899	930	928	900	930	899	930	10952
12-14	MEAN	6.3	14.8	28.6	48.7	64.0	71.3	78.2	74.4	64.9	51.8	32.1	16.1	46.1
	S.D.	14.523	14.411	12.726	13.775	12.038	8.520	7.184	8.521	11.002	10.709	13.521	13.378	27.142
	TOTAL OBS	930	846	930	900	930	898	930	930	900	930	899	930	10953
15-17	MEAN	7.3	16.4	30.0	50.7	65.7	72.6	79.6	75.9	66.3	52.7	32.1	16.2	47.3
	S.D.	14.359	14.260	12.490	14.115	11.935	8.688	7.206	9.056	11.533	11.394	13.710	13.420	27.454
	TOTAL OBS	930	846	930	899	930	900	930	930	900	930	900	930	10955
18-20	MEAN	4.7	13.2	27.2	46.5	61.9	69.1	75.6	71.3	60.1	46.3	27.9	13.8	43.3
	S.D.	14.611	14.304	12.153	12.846	11.123	8.021	6.734	8.524	10.028	9.733	12.459	13.726	26.569
	TOTAL OBS	930	846	930	900	930	900	930	930	900	930	900	927	10953
21-23	MEAN	3.1	10.9	23.9	40.1	54.0	61.1	66.6	63.2	53.4	42.7	26.3	13.0	38.3
	S.D.	14.857	14.387	12.360	10.691	9.757	7.322	6.501	7.703	8.973	9.359	12.367	13.924	23.930
	TOTAL OBS	929	846	930	900	930	900	930	930	900	930	900	927	10952
ALL HOURS	MEAN	3.6	11.5	24.6	42.0	56.2	63.7	69.9	66.1	56.6	44.8	27.7	13.4	40.2
	S.D.	14.927	14.806	13.142	13.222	12.631	10.169	9.764	10.489	11.572	10.899	12.808	13.748	25.496
	TOTAL OBS	7436	6768	7440	7198	7440	7196	7440	7438	7200	7439	7198	7434	87627

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

WET-BULB TEMPERATURES DEG F FROM HOURLY OBSERVATIONS

727575 GRAND FORKS AFB ND

73-82

PERIOD	MEAN	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
0-02	MEAN	1.8	8.9	20.5	33.1	44.0	52.5	58.5	55.5	47.0	37.8	23.9	11.5	33.2
	STD	14.58	11.40	7.91	2.36	9.00	8.85	6.55	5.91	6.61	8.12	11.10	13.44	21.22
	TOTAL OBS	927	846	924	920	930	899	930	930	900	930	900	930	10946
3-05	MEAN	1.1	7.9	19.4	31.7	42.4	50.9	56.9	54.0	45.8	36.6	23.3	11.0	31.9
	STD	14.49	11.42	8.21	2.48	8.86	8.99	6.59	6.18	6.77	7.95	11.14	13.42	20.96
	TOTAL OBS	930	846	924	920	930	900	930	930	900	929	900	929	10948
6-08	MEAN	.4	7.0	18.9	32.7	45.0	54.2	59.7	55.6	46.4	36.1	22.7	10.4	32.6
	STD	14.67	11.41	8.63	9.26	8.65	5.95	5.47	6.34	7.72	8.12	11.12	13.25	22.02
	TOTAL OBS	929	846	925	899	930	900	930	930	900	930	900	930	10949
9-11	MEAN	1.3	9.3	22.3	37.7	49.8	58.3	64.0	60.5	51.9	40.8	25.3	11.6	36.2
	STD	14.54	11.42	8.10	9.94	8.65	5.74	5.21	5.71	7.28	7.56	11.19	13.06	23.01
	TOTAL OBS	926	846	926	920	929	898	930	928	900	930	898	930	10941
12-14	MEAN	5.5	13.4	25.8	40.7	52.0	60.0	65.7	62.5	54.6	44.2	28.3	14.7	39.1
	STD	13.69	11.64	11.39	9.82	8.47	5.80	5.52	6.03	7.57	8.00	11.34	12.75	22.35
	TOTAL OBS	927	846	927	920	930	897	930	930	900	930	899	930	10946
15-17	MEAN	6.4	14.9	26.9	41.7	52.7	60.2	66.0	62.8	54.9	44.5	28.4	14.8	39.6
	STD	13.77	11.48	10.98	9.57	8.23	5.82	5.45	6.08	7.55	8.28	11.48	12.86	22.14
	TOTAL OBS	930	845	926	899	930	900	930	930	900	930	899	930	10949
18-20	MEAN	4.1	12.1	24.9	39.5	51.1	59.0	64.8	61.2	52.1	41.1	25.4	12.8	37.5
	STD	14.22	11.78	11.20	9.34	8.18	5.89	5.49	6.23	7.61	8.06	11.30	13.28	22.47
	TOTAL OBS	930	846	926	920	930	900	930	930	900	930	900	927	10949
21-23	MEAN	2.6	10.1	22.4	35.8	47.1	55.3	61.2	57.6	48.5	38.9	24.1	12.0	34.8
	STD	14.51	11.92	11.81	8.98	8.42	6.22	5.76	6.44	7.79	8.22	11.39	13.45	21.74
	TOTAL OBS	929	846	924	900	930	900	930	930	900	930	900	927	10946
ALL HOURS	MEAN	3.0	10.5	22.6	36.6	48.0	56.3	62.1	58.7	50.2	40.0	25.2	12.3	35.6
	STD	14.47	11.42	12.01	10.02	9.31	6.94	6.51	7.07	8.44	8.62	11.43	13.28	22.17
	TOTAL OBS	7428	6767	7402	7198	7439	7194	7440	7438	7200	7439	7196	7433	67574

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

DEW-POINT TEMPERATURES DEG F FROM HOURLY OBSERVATIONS

727575 GRAND FORKS AFB ND

73-82

STATION NAME	AN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUA
1-02	MEAN -0.0 S.D. 15.61217.16714.59810.37310.988 7.356 6.532 7.071 9.026 9.01312.32616.501 23.280	2.4	15.5	27.7	38.0	49.0	55.8	52.5	43.2	33.1	18.5	5.2	23.1
	TOTAL OBS 927 846 924 900 930 899 930 930 900 930 900 930 930 10946												
5-05	MEAN -6.5 S.D. 18.63517.44014.78510.37810.797 7.291 6.700 7.165 8.758 8.78412.98816.610 23.257	1.4	14.3	26.8	37.2	48.1	54.6	51.6	42.4	32.3	17.9	4.7	27.2
	TOTAL OBS 930 846 924 900 930 900 930 930 900 929 900 929 929 10948												
5-08	MEAN -7.1 S.D. 19.28917.71115.03210.69410.477 6.724 6.154 6.765 8.433 8.77913.01216.474 24.145	.4	13.8	27.4	39.3	50.5	56.7	52.8	43.1	32.2	17.5	3.9	27.7
	TOTAL OBS 929 846 925 899 930 900 930 930 900 930 900 930 930 10949												
7-11	MEAN -5.8 S.D. 18.47317.21614.19410.94011.041 7.160 6.951 7.012 8.382 8.31012.76116.37 24.146	2.5	16.4	29.6	40.7	52.0	58.2	54.8	45.8	34.8	19.2	5.0	29.6
	TOTAL OBS 926 846 926 900 929 898 930 928 900 930 898 930 930 10941												
10-14	MEAN -2.1 S.D. 16.81616.26313.00510.65611.240 7.677 7.862 7.925 9.148 9.12612.36315.919 22.774	6.4	19.1	30.3	40.4	51.7	57.9	54.4	45.8	35.4	20.9	7.7	30.8
	TOTAL OBS 927 846 927 900 930 897 930 930 900 930 899 930 930 10946												
15-17	MEAN -1.0 S.D. 16.59016.08712.30010.28311.453 8.008 7.981 8.025 9.295 9.40012.42216.056 22.235	8.0	20.3	30.4	40.2	51.1	57.5	53.8	45.2	35.0	20.9	7.9	30.9
	TOTAL OBS 930 845 926 899 930 900 930 930 900 930 899 930 930 10949												
18-20	MEAN -3.0 S.D. 17.58816.75512.79410.21011.207 8.041 7.729 7.803 9.015 9.26412.77016.565 23.078	5.8	19.4	30.2	40.2	51.3	57.9	54.1	44.9	34.4	19.3	6.3	30.2
	TOTAL OBS 930 846 926 900 930 900 930 930 900 930 900 927 927 10949												
1-23	MEAN -4.5 S.D. 18.21317.01013.61510.27811.065 7.583 6.780 7.346 8.774 9.25812.96816.592 23.350	3.7	17.5	29.3	39.5	50.5	57.4	53.4	43.7	33.7	18.4	5.5	29.1
	TOTAL OBS 929 846 924 900 930 900 930 930 900 930 900 927 927 10946												
ALL HOURS	MEAN -4.4 S.D. 18.06617.13814.00210.55911.094 7.592 7.207 7.469 8.942 9.06812.81616.425 23.327	3.8	17.0	29.0	39.4	50.5	57.0	53.4	44.3	33.9	19.1	5.6	29.2
	TOTAL OBS 7428 6767 7402 7198 7439 7194 7440 7438 7200 7439 7196 7433 7433 87578												

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82

PERIOD

FEB
MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS LST	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
FEB	00-02	100.0	100.0	100.0	99.1	90.3	79.8	61.8	31.3	8.7	72.5	846
	03-05	100.0	100.0	100.0	98.9	90.5	79.7	58.2	30.9	9.0	72.1	846
	06-08	100.0	100.0	100.0	99.1	89.6	78.8	56.6	29.4	9.3	71.3	846
	09-11	100.0	100.0	100.0	99.4	90.2	79.3	56.5	22.7	5.9	70.7	846
	12-14	100.0	100.0	100.0	99.2	90.8	75.3	49.4	18.8	4.1	69.4	846
	15-17	100.0	100.0	100.0	99.2	92.3	74.9	49.0	18.7	4.6	69.6	845
	18-20	100.0	100.0	100.0	99.1	92.7	79.0	60.2	28.6	6.7	72.2	846
	21-23	100.0	100.0	100.0	98.8	92.0	79.7	60.0	33.1	8.4	72.7	846
TOTALS		100.0	100.0	100.0	99.1	91.1	78.3	56.5	26.7	7.1	71.4	6767

USAFETAC

FORM
JUL 64

0-87-5 (OL A)

AD A131 893

GRAND FORKS AFB NORTH DAKOTA REVISED UNIFORM SUMMARY OF
SURFACE WEATHER O..(U) AIR FORCE ENVIRONMENTAL
TECHNICAL APPLICATIONS CENTER SCOTT A.. APR 83
USAFETAC/DS/83/011 SBI-AD-E850 389

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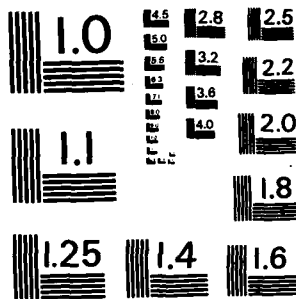


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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82

PERIOD

MAY
MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
MAY	00-02	100.0	100.0	99.0	91.5	80.3	69.0	49.4	23.2	7.5	67.7	930
	03-05	100.0	100.0	99.9	97.5	88.3	75.5	56.3	29.9	9.1	71.4	930
	06-08	100.0	100.0	99.1	94.6	84.2	68.3	49.8	22.4	5.6	68.2	930
	09-11	100.0	98.4	88.1	72.9	56.1	38.0	21.9	9.1	1.9	54.6	929
	12-14	100.0	92.6	77.1	54.5	37.1	22.7	14.7	6.1	.9	46.1	930
	15-17	100.0	87.5	71.2	49.4	31.7	20.3	12.6	3.9	.6	43.4	930
	18-20	100.0	93.2	80.1	62.4	42.3	27.2	17.2	7.6	1.8	48.9	930
	21-23	100.0	99.7	93.0	82.9	69.8	54.2	35.5	14.8	3.4	61.0	930
TOTALS		100.0	96.4	88.4	75.7	61.2	46.9	32.2	14.6	3.9	57.7	7439

USAFETAC

FORM
JUL 64

0-87-5 (OL A)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82

PERIOD

JUL
MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JUL	00-02	100.0	100.0	100.0	100.0	98.3	93.7	80.6	51.0	16.1	79.9	930
	03-05	100.0	100.0	100.0	100.0	99.8	97.0	87.3	62.0	20.8	82.8	930
	06-08	100.0	100.0	100.0	99.9	98.3	90.9	71.0	44.2	12.7	77.8	930
	09-11	100.0	100.0	99.6	91.6	74.5	50.3	29.0	11.6	1.3	61.5	930
	12-14	100.0	99.9	94.0	74.1	49.6	26.8	12.2	4.4	.6	51.8	930
	15-17	100.0	99.4	91.9	66.0	40.1	20.4	8.8	3.4	.6	48.7	930
	18-20	100.0	100.0	96.5	83.1	61.4	38.0	18.2	7.0	1.0	56.2	930
	21-23	100.0	100.0	100.0	99.1	94.6	84.4	59.6	30.5	6.1	73.2	930
TOTALS		100.0	99.9	97.8	89.2	77.1	62.7	45.8	26.8	7.4	66.5	7440

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
PERIOD

SEP
MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (L.S.T.)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS.
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
SEP	00-02	100.0	100.0	100.0	99.7	96.1	87.7	69.9	41.3	7.9	76.1	930
	03-05	100.0	100.0	100.0	99.6	98.7	92.7	77.8	49.0	12.8	78.7	930
	06-08	100.0	100.0	100.0	99.9	99.0	92.0	77.2	46.0	13.6	78.6	930
	09-11	100.0	100.0	98.9	93.4	78.9	55.7	36.6	17.3	5.9	64.3	930
	12-14	100.0	98.9	92.1	71.9	48.3	30.1	20.1	11.1	3.0	53.2	900
	15-17	100.0	98.0	85.8	63.8	40.8	26.7	17.8	9.8	2.1	50.0	930
	18-20	100.0	99.7	97.0	86.3	66.7	45.2	27.2	13.4	3.2	59.6	900
	21-23	100.0	100.0	100.0	98.2	91.7	75.9	53.0	25.0	5.3	70.6	900
TOTALS		100.0	99.6	96.7	89.1	77.5	63.3	47.5	26.6	6.7	66.4	7200

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GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82
PERIOD

NOV
MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
NOV	00-02	100.0	100.0	99.9	99.3	93.7	85.1	64.4	30.9	8.8	73.8	900
	03-05	100.0	100.0	100.0	99.1	96.0	86.7	66.6	31.9	9.0	74.4	900
	06-08	100.0	100.0	100.0	99.7	95.3	88.9	67.1	34.9	9.1	75.1	900
	09-11	100.0	100.0	99.9	97.4	90.5	80.5	56.7	27.6	6.8	71.3	898
	12-14	100.0	100.0	97.1	91.4	81.9	65.0	38.2	18.4	5.0	65.3	899
	15-17	100.0	99.4	97.0	92.3	81.9	66.6	39.9	16.4	4.0	65.4	899
	18-20	100.0	99.9	99.4	97.4	90.6	79.8	56.7	26.8	6.1	71.3	900
	21-23	100.0	100.0	99.8	98.3	92.7	83.1	62.3	26.7	7.9	72.9	900
TOTALS		100.0	99.9	99.1	96.9	90.3	79.5	56.5	26.7	7.1	71.2	7196

USAFETAC

FORM
JUL 64

0-87-5 (OL A)

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

RELATIVE HUMIDITY

727575
STATION

GRAND FORKS AFB ND
STATION NAME

73-82

PERIOD

ALL
MONTH

CUMULATIVE PERCENTAGE FREQUENCY OF OCCURRENCE (FROM HOURLY OBSERVATIONS)

MONTH	HOURS (LST)	PERCENTAGE FREQUENCY OF RELATIVE HUMIDITY GREATER THAN									MEAN RELATIVE HUMIDITY	TOTAL NO OF OBS
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
JAN	ALL	100.0	100.0	100.0	97.7	89.2	69.0	48.0	25.7	9.0	69.4	7428
FEB		100.0	100.0	100.0	99.1	91.1	78.3	56.5	26.7	7.1	71.4	6767
MAR		100.0	100.0	99.7	98.6	93.0	82.2	61.5	35.6	11.4	73.8	7472
APR		100.0	98.1	93.0	84.8	74.8	60.4	41.0	22.6	8.2	63.9	7198
MAY		100.0	96.4	88.4	75.7	61.2	46.9	32.2	14.6	3.9	57.7	7439
JUN		100.0	99.9	97.2	86.9	74.2	59.4	43.5	24.8	9.0	65.3	7194
JUL		100.0	99.9	97.8	89.2	77.1	62.7	45.8	26.8	7.4	66.5	7440
AUG		100.0	99.9	97.8	89.6	76.4	63.5	47.9	28.0	5.8	66.7	7438
SEP		100.0	99.6	96.7	89.1	77.5	63.3	47.5	26.6	6.7	66.4	7200
OCT		100.0	100.0	98.2	92.4	81.8	67.6	49.0	27.5	6.9	67.9	7439
NOV		100.0	99.9	99.1	96.9	90.3	79.5	56.5	26.7	7.1	71.2	7196
DEC		100.0	100.0	100.0	98.3	89.5	76.0	58.0	30.9	10.0	71.8	7433
TOTALS		100.0	99.5	97.3	91.5	81.3	67.4	49.0	26.4	7.7	67.7	87574

USAFETAC

FORM
JUL 64

0-87-5 (OL A)

U S AIR FORCE
ENVIRONMENTAL TECHNICAL
APPLICATIONS CENTER

PART F

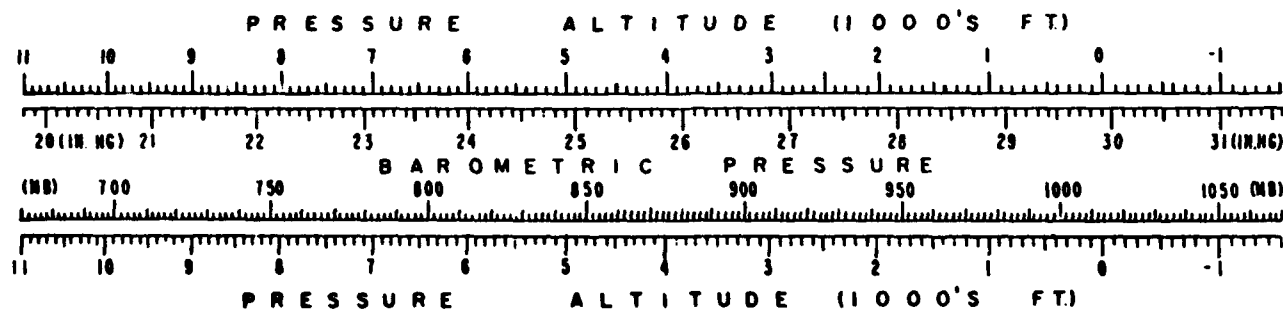
PRESSURE SUMMARY

Presented in this part are two tables giving the means, standard deviations, and total number of observations of station pressure and sea-level pressure by month and annual for the local hourly observations corresponding to the eight 3-hourly synoptic times GCT. The same computations are also provided at the bottom of the page for all hours combined. All years of data available are combined in both of these tables, although the overall period is limited by service as indicated below.

NOTES: Station pressure not reported for all services until late in 1945.
Station pressure reported only at 6-hourly times for Air Force stations from Jan 64 - Jul 65.
METAR stations do not report Sea-level pressure for the period Jan 68 - Dec 70.

1. Station pressure is presented in the table in inches of mercury.
2. Sea-level pressure is presented in millibars.

Provided below is a scale to convert station pressure values in inches of mercury or millibars to pressure-altitude in 1000's of feet. This scale is an enlarged model of the pressure-altitude scale in the Smithsonian Meteorological Tables.



GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

STATION PRESSURE IN INCHES HG FROM HOURLY OBSERVATIONS

727575 GRAND FORKS AFB ND

73-82

INCHES	STATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
10	MEAN	29.39129	09228	98629	00128	93428	89328	94628	95928	98828	98229	03029	025	28.993
	S.D.	.285	.288	.248	.231	.183	.173	.156	.163	.199	.233	.262	.291	.237
	TOTAL OBS	309	282	310	300	310	300	310	310	300	310	300	310	3651
3	MEAN	29.09329	09128	97728	99628	93428	88828	94528	95828	98728	98129	02529	026	28.991
	S.D.	.284	.292	.252	.236	.188	.179	.158	.166	.201	.236	.267	.289	.240
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	310	3652
6	MEAN	29.08529	09328	97829	00728	94828	90128	95928	95828	99828	98729	02329	024	28.997
	S.D.	.287	.294	.258	.243	.191	.184	.160	.168	.201	.236	.270	.288	.241
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	310	3652
9	MEAN	29.09729	10628	99429	01828	95928	90828	96828	97829	00829	00129	03829	039	29.009
	S.D.	.290	.295	.261	.245	.192	.188	.160	.169	.205	.239	.272	.287	.243
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	310	3652
12	MEAN	29.09829	10928	99429	00928	94228	89828	96028	95828	99628	99329	03629	038	29.003
	S.D.	.287	.297	.260	.239	.190	.182	.159	.168	.206	.239	.271	.287	.243
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	310	3652
15	MEAN	29.07129	08028	97328	98428	91328	88128	94028	94428	96928	96229	01629	015	28.978
	S.D.	.285	.291	.250	.228	.185	.177	.158	.163	.204	.235	.266	.285	.238
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	310	3652
18	MEAN	29.08429	08828	97328	97628	89828	86828	92328	93028	96428	96829	03029	028	28.977
	S.D.	.285	.286	.242	.223	.181	.173	.155	.163	.203	.230	.259	.285	.237
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	309	3651
21	MEAN	29.08629	09528	98328	99928	92028	88328	93528	94728	98628	97829	03429	029	28.989
	S.D.	.286	.288	.239	.223	.179	.170	.154	.163	.198	.231	.259	.288	.236
	TOTAL OBS	310	282	310	300	310	300	310	310	300	310	300	309	3651
ALL HOURS	MEAN	29.08829	09428	98228	99928	93128	89028	94728	95628	98728	98229	02929	028	28.992
	S.D.	.286	.291	.251	.234	.187	.178	.158	.166	.202	.235	.265	.287	.240
	TOTAL OBS	2979	2256	2980	2400	2480	2400	2480	2480	2400	2480	2400	2478	29213

GLOBAL CLIMATOLOGY BRANCH
USAFETAC
AIR WEATHER SERVICE/MAC

MEANS AND STANDARD DEVIATIONS

SEA LEVEL PRESSURE IN HGS FROM HOURLY OBSERVATIONS

727575 GRAND FORKS AFB ND

73-82

STATION

STATION NAME

YEARS

HRS	ST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
3	MEAN	1021.11020.71016.41016.21013.31011.61013.21013.81015.11015.41017.81018.3												1016.1
	S.D.	10.44710.626 8.976 8.292 6.604 6.144 5.594 5.833 7.215 8.331 9.42110.644												8.812
	TOTAL OBS	306 282 310 299 310 300 309 310 300 310 300 310 310												3648
3	MEAN	1021.11020.71016.11016.01013.31011.41013.21013.81015.11015.41017.61018.3												1016.0
	S.D.	10.41010.735 9.149 8.491 6.751 6.385 5.666 5.933 7.297 8.463 9.66810.538												8.918
	TOTAL OBS	309 282 310 300 310 299 309 310 299 310 300 310 310												3648
6	MEAN	1020.91020.81016.11016.41013.81011.91013.71014.21015.51015.61017.61018.3												1016.2
	S.D.	10.50610.810 9.330 8.703 6.849 6.508 5.734 6.028 7.194 8.545 9.73010.508												8.927
	TOTAL OBS	310 282 310 300 310 300 310 310 299 310 300 310 310												3651
9	MEAN	1021.31021.31016.71016.81014.21012.11014.11014.51015.91016.11016.11019.8												1016.6
	S.D.	10.63510.868 9.501 8.781 6.891 6.638 5.732 6.055 7.348 8.602 9.81210.415												9.013
	TOTAL OBS	310 282 310 300 310 300 310 310 299 310 300 310 310												3651
12	MEAN	1021.31021.31016.71016.41013.61011.71013.71014.11015.41015.71018.01018.7												1016.4
	S.D.	10.54210.905 9.386 8.515 6.807 6.473 5.702 5.980 7.396 8.605 9.78410.474												9.009
	TOTAL OBS	309 282 310 300 310 300 310 310 300 310 300 310 309												3650
15	MEAN	1020.41020.21015.91015.51012.51011.11013.01013.31014.41014.61017.31018.0												1015.5
	S.D.	10.43810.594 9.056 8.191 6.609 6.332 5.638 5.798 7.316 8.409 9.55310.307												8.835
	TOTAL OBS	309 282 310 299 310 300 310 310 300 310 300 310 309												3649
18	MEAN	1020.91020.61015.91015.31012.01010.71012.51012.81014.41015.01017.81018.4												1015.5
	S.D.	10.43010.505 8.745 7.996 6.539 6.102 5.532 5.826 7.267 8.204 9.32110.326												8.816
	TOTAL OBS	310 282 310 300 310 300 310 310 300 310 300 310 309												3651
21	MEAN	1021.01020.91016.31016.11012.81011.21012.91013.41015.11015.41018.01018.5												1015.9
	S.D.	10.52510.563 8.665 8.023 6.410 6.039 5.529 5.843 7.141 8.279 9.35810.513												8.777
	TOTAL OBS	309 282 310 300 309 300 310 310 300 310 300 309 309												3649
ALL HOURS	MEAN	1021.01020.81016.31016.11013.21011.51013.31013.81015.11015.41017.81018.4												1016.0
	S.D.	10.48110.691 9.097 8.379 6.707 6.335 5.655 5.926 7.278 8.430 9.57210.455												8.892
	TOTAL OBS	2474 2256 2480 2398 2479 2399 2478 2480 2397 2480 2480 2476 2476												29197

END

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